

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. Decide if the statement is true or false.

1) 16 is a solution of -8x = A) True	-128.	B) False		1)
2) -16 is a solution of 3x = A) True	-44.	B) False		2)
3) -6 is a solution of -6x - A) True	3 = 33.	B) False		3)
4) -11 is a solution of -4x A) True	+ 7 = 53.	B) False		4)
5) -4 is a solution of -5x + A) True	5x = 0.	B) False		5)
6) 5 is a solution of -6x - 9 A) True	x = 16.	B) False		6)
7) -2 is a solution of 9x + 2 A) True	$2\mathbf{x} = 10\mathbf{x}.$	B) False		7)
Decide whether the following is	an expression or ar	equation.		
8) 9x + 1 + 6x + 4 A) Expression		B) Equation		8)
9) 3x - (2x - 1) = 2 A) Equation		B) Expression		9)
10) 9(5x + 3) = 8(9x - 6) A) Equation		B) Expression		10)
11) 5(8x + 5) - 7(2x - 7) A) Expression		B) Equation		11)
12) - 9x + 5 - 3x + 10 = 0 A) Expression		B) Equation		12)
13) 3(2x - 2) = 5(x + 4) A) Expression		B) Equation		13)
14) -4(x - 9) - 3(x + 8) - 10x A) Expression		B) Equation		14)
Solve the equation. 15) $14x - 7 = 11$ A) $\begin{cases} \frac{2}{7} \end{cases}$	B) $\left\{-\frac{9}{7}\right\}$	C) $\left\{ \frac{17}{14} \right\}$	D) $\left\{ \frac{9}{17} \right\}$	15)
()			ι,	

16) 3s + 8 = -9s

	A) $\left\{-\frac{4}{3}\right\}$	B) $\left\{\frac{2}{3}\right\}$	C) $\left\{-\frac{2}{3}\right\}$	D) $\left\{ \frac{3}{2} \right\}$	
	17) 23t - 16 = 15t - 10 A) $\left\{ -\frac{3}{4} \right\}$	B) $\left\{ \frac{3}{4} \right\}$	C) $\left\{-\frac{23}{26}\right\}$	D) $\left\{ -\frac{19}{6} \right\}$	17)
	18) 5(x + 5) = (5x + 25) A) {0} C) {50}		B) Ø D) {All real numbers}		18)
	19) $(y - 7) - (y + 7) = 9y$ A) $\left\{-\frac{2}{9}\right\}$	B) {- 2}	C) $\left\{-\frac{14}{9}\right\}$	D) $\left\{ -\frac{14}{5} \right\}$	19)
	20) $12(6c - 2) = 5c - 8$ A) $\left\{ \frac{16}{77} \right\}$	B) $\left\{ \frac{16}{67} \right\}$	C) $\left\{ \frac{32}{67} \right\}$	D) $\left\{ -\frac{16}{67} \right\}$	20)
	21) 4(y + 7) = 5(y - 3) A) {13}	B) {-13}	C) {-43}	D) {43}	21)
	22) $3m + 7 + 5(2m - 3) = 3(m + A) \left\{ \frac{1}{10} \right\}$	$ B) \left\{ \frac{17}{16} \right\} $	C) $\left\{\frac{31}{10}\right\}$	D) $\left\{ \frac{17}{10} \right\}$	22)
	23) -6x + 5(-2x - 5) = -32 - 9x A) {1}	B) {-1}	C) $\left\{ \frac{57}{25} \right\}$	D) $\left\{ \frac{57}{7} \right\}$	23)
	24) $-[8x + (2x + 7)] = 1 - (9x + 3)$ A) $\{-1\}$	B) $\int \frac{5}{3}$	C) {- 5}	D) {3}	24)
Decid	a whathar the equation is con-	ditional an identity or a	contradiction Cive the	solution sot	
Deciu	25) 16m + 6 = 2(5m + 21) A) Contradiction; Ø C) Identity; {all real num	ibers}	B) Conditional; {6}D) Conditional; {-8}	solution set.	25)
	26) 3(27t + 6) = 9(5t - 2) A) Conditional; {-0} C) Identity; {all real num	ibers}	B) Conditional; {-1} D) Contradiction; Ø		26)
	27) 5(2f - 31) = 10f - 155 A) Identity; {all real num C) Contradiction; Ø	nbers}	B) Conditional; {0} D) Identity; Ø		27)
	28) 2(3g + 34) - 6g - 68 = 0 A) Conditional; {3} C) Contradiction; Ø		B) Conditional; {0} D) Identity; {all real num	nbers}	28)
	29) 20k + 3 = 5(4k - 1)				29)

A) C C) Io	Conditional; {-4} dentity; {all real num	bers}	B) Conditional; {4}D) Contradiction; Ø		
30) -6s - 1 A) C C) Io	+ 3(2s + 1) = 0 Contradiction; Ø dentity; {all real num	bers}	B) Conditional; {2} D) Conditional; {1}		30)
31) 3x + 8(A) C C) C	x + 1) + 3 = 11 - 6x Contradiction; Ø Conditional; {1}		B) Conditional; {0} D) Identity; {all real num	ıbers}	31)
32) 2[3 - (5 A) C C) Io	5 – 5r)] _{- r = -10 + 3(2 Conditional; {10} dentity; {all real num}	+ 3r) bers}	B) Conditional; {-5} D) Contradiction; Ø		32)
Solve the equati 33) $\frac{f}{4}$	on.				33)
- 5 = A) {	= 1 16}	B) {-24}	C) {24}	D) {-16}	
$34) \frac{2x}{5} = \frac{3}{3}$	$\frac{5}{3} = 4$				34)
A) {- 35) p 3	-60} p	B) {-120}	C) {120}	D) {60}	35)
A) {-	= 3 -24}	B) {24}	C) {21}	D) {-21}	
$36) \frac{r+6}{3}$	$\frac{r+8}{6}$				36)
A) {-	- -4}	B) {3}	C) {4}	D) {-12}	
$37) \frac{a}{5} \frac{1}{5}$	= -6	D) (21)	C) (20)	(21)	37)
A) (- 38) <u>y</u>	29}	D) {31}	C) {29}	U) {-31}	38)
6 - 4 = A) {4	= 4 48}	B) {-50}	C) {50}	D) {-48}	
39) <u>b</u> 4 - 10	= -5				39)
A) {2	22}	B) {20}	C) {-20}	D) {-22}	40)
$\frac{40}{5}$ A) ($\begin{pmatrix} \frac{7}{5} \\ \frac{4}{4} \end{pmatrix} = - \frac{7}{4}$	B) <u>[60]</u>	C) <u>[60</u>]	D) <u>[4</u>]	40)
() (47	$\left\{ \overline{23} \right\}$	$\left\{ -\frac{1}{47} \right\}$	$\left\{ \overline{47} \right\}$	
41) 0.01x +	-0.1(x + 20,000) = 222	20			41)

		A) {20,000}	B) {200}	C) {2000}	D) {200,000}	
	42) -	0.08y + 0.13(9000 - y) = 0.2	9y			42)
		A) {5850}	B) {7020}	C) {2340}	D) {585}	
	43) -	0.5(30,000) + 0.15p = 0.02(3	30,000 +p)			43)
		A) {20,280}	B) {1,200,000}	C) {120,000}	D) {2028}	
Provi	de an	appropriate response.				
	44) 2	2x - 5 = 5 + 7x - 3				44)
	I	s this a linear equation?				
		A) Yes		B) No		
	45)	3				45)
	-	x = 83				
	I	s this a linear equation?				
		A) No		B) Yes		
	46) ₅	$5^{x^2} - 7 = 3x$				46)
	I	s this a linear equation?				
		A) No		B) Yes		
SHO	RT AI	NSWER. Write the word	l or phrase that best comp	pletes each statement or a	answers the question.	
	47) I e	f one step in the solution or equation?	of an equation is 75 = -32, •	what is the final solution	of the 47)	
	48) _T	Frue or false? This pair of e	equations is equivalent. 4	x - 7 = 5 and $6x + 5 = 23$	48)	
	49) T	True or false? The solution	set of the equation 7y - 6	= 7y + 3 is {0}. Explain.	49)	

50) True or false? The solution set of the equation 6(5s - 9) = 30s - 54 is {1}. Explain.50) _____51) Find all values of s that make this statement true:8(6s - 2) = 48s - 16.51) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. Solve the equation for the specified variable. Use the distributive property to factor as necessary.

1 1		
52) $-8k + ar = r - 8y$ for r		52)
A) $-8k + 8y$ $8k - 8y$	B) <u>-8k + a</u> <u>8k - a</u>	
r = $a-1$ $or r = $ $1-a$	$r = \frac{1 - 8y}{0}$ or $r = \frac{8y - 1}{0}$	
C) $8k - 8y - 8k + 8y$	D) a – 1 1 – a	
r = or $r = $ $1 - a$	$r = \frac{8k - 8y}{6}$ or $r = \frac{-8k + 8y}{6}$	
53) 5s + 5p = tp - 5 for p		53)
A) $5s + 5$ $-5s - 5$	B) $-5s-5$ $5s+5$	
p = 5 or $p = -5$	5-t $t-5$	
p = 0 p =	p = 0.0 p = -58 = 5	
-5s - 5 $-5s + 5$	$D) \frac{cs+c}{-t} \frac{cs-c}{t}$	
p = 0.05 or p = 0.05 rot	p = or p = c	
54) $8y - x$		54)
V V		JT/
w = y for y		

A)
$$y = \frac{x}{w-8}$$
 or $y = \frac{-x}{8-w}$
C) $\frac{-x}{w-8}$ or $y = \frac{x}{8-w}$
 $y = \frac{w-8}{-w}$ or $y = \frac{x-8}{-w}$
D) $\frac{w-8}{-x}$ or $y = \frac{8-w}{x}$
 $y = \frac{w-8}{-x}$ or $y = \frac{8-w}{x}$
 $y = \frac{w-8}{-x}$ or $y = \frac{8-w}{x}$
(1) $y = \frac{w-8}{-x}$ or $y = \frac{8-w}{x}$
(2) $\frac{3t+8}{t}$ for t
(3) $\frac{3t+8}{t}$ for t
(4) $\frac{11}{t}$ $\frac{-11}{-c}$
(5) $\frac{-8}{c-3}$ or $t = \frac{-c-3}{-8}$
(5) $\frac{-8}{c-3}$ or $t = \frac{-c-3}{-8}$
(6) $\frac{8}{c-3}$ or $t = \frac{-8}{-c+3}$
(7) $\frac{8}{c-3}$ or $t = \frac{-8}{-c+3}$

B) y = -20x + 30

57) - 5x + 7y = 3A) $\frac{3 - 5x}{7}$ B) $\frac{-3 - 5x}{7}$ C) y = 35x + 21D) $\frac{3 + 5x}{7}$ $y = \frac{3 + 5x}{7}$

D) $\frac{6+4x}{5}$

57) _____

56) _____

55) _____

58)
$$6x - 7y = 2$$

A) $\frac{2 - 6x}{-7}$, or $y = \frac{6x - 2}{7}$
C) $\frac{-2 - 6x}{y = -7}$, or $y = \frac{6x + 2}{7}$
 $y = \frac{-2 - 6x}{-7}$, or $y = \frac{6x + 2}{7}$
59) $-7x - 7y = 2$
A) $2 - 7x$, $7x - 2$
B) $\frac{-2 + 6x}{-7}$, or $y = \frac{-6x + 2}{7}$
 $y = \frac{-7}{-7}$, or $y = \frac{6x + 2}{7}$
59) $-2x - 7y = 2$
A) $2 - 7x$, $7x - 2$
B) $-2 + 7x$
B) $-2 + 7x$
C) $-2 - 7x$

 $\begin{array}{c} C \\ y = \end{array} \frac{6 - 4x}{5} \end{array}$

A)
$$\frac{2-7x}{-7}$$
, or $y = \frac{7x-2}{7}$
C) $\frac{2+7x}{-7}$, or $y = \frac{-7x-2}{7}$
 $y = \frac{-7x-2}{7}$, or $y = \frac{-7x-2}{7}$
 $y = \frac{-7}{-7}$, or $y = \frac{7x+2}{7}$
 $y = \frac{-7}{-7}$, or $y = \frac{7x+2}{7}$

Solve the problem.

Solve the equation for y. 56) 4x + 5y = 6

 $\begin{array}{c} A) & \frac{-6 - 4x}{5} \\ y = \end{array}$

60) Find the corresponding Celsius temperature for a temperature of 232°F. Round to the nearest tenth, if necessary				
A) 449.6°C	B) 360°C	C) 125.3°C	D) 111.1°C	
61) Find the correspondi tenth, if necessary.	ing Fahrenheit temperatur	e for a temperature of 88	°C. Round to the nearest	61)
A) 216°F	B) 31.1°F	C) 66.7°F	D) 190.4°F	
62) What is the perimete	r of a rectangle of length 2	25 ft and width 10 ft?		62)
A) 70 ft	B) 60 ft	C) 140 ft	D) 35 ft	
63) What is the area of a	square with side 1.8 cm?			63)
A) _{3.24} cm ²	B) 3.6 cm ²	C) ₅ cm ²	D) _{12.96} cm ²	

64) Find the area of a triar	ngle with height 6 m and	l base 12 m.		64)
A) ₁₄₄ m ²	B) ₇₂ m ²	C) ₉ m ²	D) ₃₆ m ²	,
65) Find the surface area of	of a cylinder with a radi	us of 2 cm and a height of 4() cm. Use 3.14 for π .	65)
A) 514 96 cm ²	B) $_{502.4}$ cm ²	C) $_{527.52}$ cm ²	D) _{1507 2} cm ²	
011.00	002.1	02,02	1007.2	
66) Jay drove 355 km at a	n average rate of 71 km/	hr. How long did the trip ta	ke?	66)
A) 6 hr	B) <u>1</u>	C) 5 hr	D) 4 hr	,
	$\frac{5}{hr}$			
67) Janet drove 272 km, ar	nd the trip took 4 hr. At	what average rate was Jane	t traveling?	67)
A) <u>1</u>	B) 68 km/hr	C) 69 km/hr	D) 1088 km/hr	
68 km/hr				
68) The area of a trapezoi	d is 57 square feet. If the	bases are 5 ft and 14 ft, find	l the altitude of the	68)
trapezoid.	-			
A) 12 ft	B) 3 ft	C) 6 ft	D) 1.5 ft	
69) A circle has a circumfe	erence of 44π m. Find th	e radius of the circle.		69)
A) 22 m	B) 7 m	C) 11 m	D) 44 m	
70) -		(0.5v	r)	70
70) Find the simple intere	st if \$3800 is borrowed a	at 14.9% for 6 months (0.5°)	T).	70)
A) \$283.10	B) \$1132.40	C) \$127.52	D) \$28,310.00	
71) Find the simple intere	et if \$3300 is invocted at	6.9% for $4.$ worrs		71)
A) $\$227 70$	B) \$1913.04	C) \$910.80	D) \$56.92	/1)
$i i j \psi z z i . i 0$	D) \$1710.01	C) \$10.00	D) \$00.92	
72) Find the total amount	in an account if \$800 is i	invested at 17% simple inter	est for 1.5 years.	72)
A) \$870.59	B) \$204.00	C) \$936.00	D) \$1004.00	,
73) Find the total amount	that must be repaid if \$	2800 is borrowed at 14.9% si	imple interest for 2	73)
years.				
A) \$3175.84	B) \$834.40	C) \$3634.40	D) \$3217.20	
				-
74) A chemical solution co	ontains 7% salt. How mu	ich salt is in 2 ml of solution	n? Round your answer	74)
to three decimal place Λ 28571 ml	s, if necessary. B) 0.14 ml	(1) 1 4 ml	D) 2.857 m^{1}	
A) 20.571 III	D 0.14 III	C) 1.4 III	D) 2.007 III	
75) During one year, the I	arsons' real estate bill i	ncluded \$585 for local schoo	ls. Of this amount, \$245	75)
went to the high schoo	ol district. What percent	did the Larsons pay to the l	high school district?	
Round your answer to	two decimal places.	1 5	0	
A) 41.88%	B) 41.71%	C) 58.12%	D) 34.00%	
76) A mixture of chlorine	and water contains a to	tal of 93 gallons of liquid. Th	nere are 64 gallons of	76)
pure chlorine in the m	ixture. (i) What percent	of the mixture is water? (ii)	What percent of the	
mixture is chlorine? R	ound your answer to the	e nearest percent, if necessar	ry.	
A) (1) 64% water; (11) 36% chlorine	B) (1) 69% water; (ii)	31% chlorine	
C) (1) 15% water; (11) 85% chlorine	D) (1) 31% water; (1	1) 09% chiorine	
77) The graph shows the	percent of students at a l	local high school who were	enrolled in a foreign	
languago class cach se	bool year during the 10	80c	chionea ni a toreign	

language class each school year during the 1980s.

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	A) 2118 students	D) 2100 students	C) 51 students	D) $\delta 02$ students	
78) T	The graph shows the r	percent of students at a loca	al high school who were	enrolled in a foreign	78)
1	anguage class each so	hool year during the 1980s		entonea in a foreign	, , ,

80%	83	Z	1	1	2 3		L.		~
60%			$\left \right\rangle$	1	~	Ł			2
40%								2	2
20%									2
19	0.0	0	2		4		6	0	0

What is the best estimate for the number of students not taking a language in 1984 if a total of 3510 students were enrolled in the school?

A) 2211 students B) 1299 students C) 5616 students D) 1249 students

79) When a loan scheduled to run n payments is paid off k payments ahead of schedule, the amount 79) _____ of unearned interest u is given by $u = f \cdot \frac{k(k+1)}{n(n+1)}$, where f is the total scheduled finance charge.

The finance charge on a loan taken out by Ivan is \$632. If there were 18 equal monthly installments needed to repay the loan, and the loan is paid in full with 15 months remaining, find the amount of unearned interest. (Round your answer to the nearest cent.)

A) \$12.39 B) \$433.73 C) \$443.51 D) \$22.18

80) When a loan scheduled to run n payments is paid off k payments ahead of schedule, the amount find nce the charge of unearned interest u is given by $u = f \cdot \frac{k(k+1)}{n(n+1)}$, where f is the total scheduled finance charge. The finance charge on a loan taken out by Ajay is \$679. If there were 24 equal monthly installments needed to repay the loan, and the loan is paid in full with 11 months remaining,

answer to the nearest cent.)	80)				
,	A) \$149.38	B) \$205.96	C) \$529.62	D) \$679.00	
81)	$\frac{24}{b(p)}$ The formula A = $\frac{24}{b(p)}$ off with monthly pay payments, and b is th an automobile loan to \$521 and the original	$\frac{00f}{(+1)}$ gives the approximments, where f is the finate original amount of the be repaid in 48 monthly loan balance is $\frac{$280}{(Re)}$ (Ref	ate annual interest rate for ance charge on the loan, p loan. Find the approxima installments if the finan- bund your answer to two	or a consumer loan paid p is the number of ate annual interest rate for ce charge on the loan is decimal places, if	81)
	necessary.) A) 91.14%	B) 92.7%	C) 95.02%	D) 87.26%	
82)	Students at East Cent a club trip. What perc if necessary. A) 52%	ral High School earned \$ cent of their goal has been B) 1.9%	760 selling pennants. The n reached? Round to the : C) 19.1%	ey want to make \$3980 for nearest tenth of a percent, D) 5.2%	82)
83)	Tech Support spent \$ percent of total sales necessary.	43,790 this year on adver was spent on advertising	tising alone. If total sales ? Round to the nearest te	s were \$736,200, what enth of a percent, if $P_{1} = 000$	83)
	A) 0.6%	B) 168%	C) 16.8%	D) 5.9%	
84)	A printer priced at \$5 nearest tenth of a per A) 29.3%	81 is sold for \$411. What cent, if necessary. B) 141.4%	was the percent of price C) 70.7%	reduction? Round to the D) 341.8%	84)
SHORT A Provide a	ANSWER. Write the	word or phrase that bes se.	t completes each stateme	ent or answers the question	n.
85)	Suppose the formula $\frac{A}{2\pi h + 2\pi r}$. Is this an	A = $2\pi rh + 2\pi^{r^2}$ is solve acceptable solution? Exp	d for r with the following lain.	g result: r = 85)	
86)	Suppose the formula $t = \frac{2s}{gt + 2v_0}$. Is this ar	$s = \frac{1}{2}gt^2 + v_0t$ is solved a acceptable solution? Exp	for t with the following plain.	86) result:	
MULTIP 87)	LE CHOICE. Choose Which of the followin $\frac{A}{A} - \frac{1}{2}Bh}{\frac{1}{2}h}$	e the one alternative that ag is not a correct answer B) $\frac{2A - B}{h}$	t best completes the state $A = \frac{1}{2}$ when the formula C) $\frac{2A}{h}$ - B	ement or answers the quest $\frac{1}{2}h(b + B)$ is solved for b? D) $\frac{2A - Bh}{h}$	tion. 87)

ng is not 8 a correct answer when the formula $V = \frac{1}{3}\pi r^2 h$	38)				
solved for h?	A) $\frac{1}{3} \left(\frac{V}{\pi r^2} \right)$	B) $\left(\frac{V}{\pi r^2}\right)$	C) $\frac{3V}{\pi r^2}$	D) $\frac{V}{\frac{1}{3}\pi r^2}$	
SHORT A 89)]	NSWER. Write the word The volume of a rectangula dimensions for the solid.	l or phrase that best com ar solid is to be 36 cubic u	pletes each statement or nits. Give two sets of pos	answers the question sible 89)	
MULTIPL 90) I 1	E CHOICE. Choose the of In order to purchase moldi now much to buy?	one alternative that best ng for a window, would	completes the statement you need to use perimete	or answers the quest r or area to decide	i on. 90)
	A) Area		B) Perimeter		
91) I 1	In order to purchase tile for much to buy?	r a floor, would you need	l to use perimeter or area	to decide how	91)
	A) Perimeter		B) Area		
Translate t	the verbal phrase into a m	athematical expression.	Use x to represent the un	known number.	
92) 7	70 more than a number	······································			92)
	A) 70 + x	B) 70	C) 70 - x	D) 70x	
93) <i>(</i>	66 greater than a number				93)
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	A) x - 66	B) 66x	C) 66	D) x + 66	
94) 5	58 less than a number	B) 58v	() x = 58	D) $\mathbf{v} \pm 58$	94)
	N) 50 X	D) 50X	C/X 50	D) $X + 30$	
95) 4	times a number				95)
	A) $\frac{4}{x}$	B) 4x	C) 4 - x	D) 4 + x	
	A				
96) /	A number divided by 98				96)
	A) 98x	B) $\frac{x}{08}$	C) 98 + x	D) 98 - x	
		98			
97) 1	135 divided by some numb	ber			97)
,	A) 135 - x	B) <u>135</u>	C) 135 + x	D) 135x	,
		x			
98) I	Four times a number added	d to 7			98)
2071	A) $4x(7 + x)$	B) 4x - 7	C) 4(x + 7)	D) 4x + 7	

99) The product of 6 and 1	less than a number			99)
A) 6(1 - x)	B) $6(x + 1)$	C) 6x - 1	D) 6(x - 1)	
100) The product of 4 more	than a number and 2 less	s than the number		100)
A) $x + 4(x - 2)$	B) (x + 4) - 2	C) (x + 4)(x - 2)	D) (x + 4)(2 - x)	,
101) The quotient of 30 and	ten times a nonzero num	ıber		101)
A) <u>30</u>	B) <u>30</u>	C) <u>30</u>	D) <u>10</u>	
$\frac{10 + x}{(x \neq 0)}$	10x (x = 0)	$10x (x \neq 0)$	$30x$ (x \neq 0)	
Use the variable x for the unkno	wn, and write an equati	on representing the verb	al sentence. Then solv	e the problem.
102) Four times a number a	ded to 7 times the num	ber equals 33		102)
$(4) 7x + 4x - 33 \cdot 3$	adea to 7 times the full	B) $Ay(7 + y) = 33 \cdot -3$		102)
A) 7x + 4x = 33, 3		D) $4x(7 + x) = 35, -5$		
C) $7x - 4x = 33; 3$		D) 4(x + 7) = 33x; -3		
103) When 5 times a numbe	r is subtracted from 7 tin	nes the number, the result	is 16.	103)
A) $5(x - 7) = 16x; 2$		B) $7x - 5x = 16; 8$		
C) 5x(7 - x) = 16; -8		D) $5x + 8x = 16; 2$		
104) If 3 times a number is a	dded to -10, the result is	equal to 13 times the num	nber.	104)
A) 13(3x - 10) = -10; -	1	B) $3x + (-10) = 13x;$	1	
C) $3x + 10x = 13; 1$		D) 3x - (-10) = 13x; 1		
105) <u>1</u>				105)
When $\frac{4}{2}$ of a number i	s added to 20 the result	is 38		
	s duded to 20, the result	B) 1		
$\frac{A}{4}$		$\frac{1}{4}$		
x - 20 = 38;232		+ x = 38;38		
C) <u>1</u>		D) <u>1</u>		
$38 + \frac{4}{x} = 20;72$		$20 + \frac{4}{x} = 38;72$		
106) When 50% of a number	is subtracted from 70, t	ne result is 2 less than the	number.	106)
A) $70 - 0.5x = x - 2^{2}$	48	B) $70 - 50 = x - 2.2$	2	
C) $0.5x - 70 = x - 2;$	-136	D) $70 + 0.5x = x - 2$; 144	
Decide whether the following is	an expression or an equ	ation. Simplify any expr	ression or solve any eq	uation.
107) 9x - (5x - 1) = 2	un expression of un eq		coston of solve any eq	107)
A) Expression: 2x + F	5	B) (1)		107)
)	$\frac{1}{14}$		
		Equation;		
C) $\int \underline{1}$		D) Expression; 5x +	2	
Equation; $\lfloor 4 \rfloor$				
108) 3(2x - 4) = 5(x + 3)				108)
$A) Equation: \{27\}$		B) Expression: $5x = 3$	3	100)
C) Expression: 5x + 2	2	D) Equation: $[2]$)	
C_{f} Expression, $5x + c$,	$\mathcal{L}_{\mathcal{J}}$ Equation, (-3)		
109) - 5(2x + 6) + 4(9x + 9)	7	$\mathbf{P} = \mathbf{P} \left\{ \mathbf{P} \right\}$		109)
A) Expression; $26x + 2x +$	0	B) Equation; {26}		
C) Expression; -3x +	1	D) Equation; {- 40}		
110) $2(x + 5) - 3(x - 8) = 0$				110)

A) Equation; {-14} C) Expression; 2x - 8		B) Equation; {34} D) Expression; 2x + 3		
111) $\frac{2}{3} + \frac{5}{9} + \frac{1}{18} + \frac{1}{1$		B) Expression; $\frac{1}{6}$ D) Equation; $\left\{-\frac{1}{18}\right\}$		111)
112) -3(x + 2) + 8(x - 3) = 7 A) Expression; 5x - 37 C) Expression; 5x + 23		B) Equation; $\begin{cases} -\frac{37}{11} \\ 0 \\ Equation; \end{cases}$		112)
113) $\frac{1}{5}$ $\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{3}$ A) $\begin{cases} -\frac{25}{7} \\ -\frac{7}{7} \end{cases}$ Equation; $\frac{7}{10}$ x +	<u>5</u> 3	B) Equation; $\langle 5 \rangle$ D) $\frac{3}{10}_{x+1}$	<u>7</u> 3	113)
Solve the problem. 114) Find the length of a recta width. A) 70 m	ngular lot with a po B) 27 m	erimeter of 124 m if the length i C) 62 m	s 8 m more than the D) 35 m	114)
115) A square plywood platfo 21. Find the length of a s	orm has a perimeter ide.	which is 11 times the length of	a side, decreased by	115)
A) 10	B) 3	C) 7	D) 1	
116) A rectangular Persian ca than the width. What are A) Width: 87 in.; lengt C) Width: 66 in.; lengt	rpet has a perimete e the dimensions of h: 117 in. h: 96 in.	r of 204 inches. The length of th the carpet? B) Width: 72 in.; lengt D) Width: 36 in.; lengt	e carpet is 30 in. more h: 102 in. h: 66 in.	116)
117) A pie-shaped (triangular the shortest side, while t three sides.A) 300 ft, 400 ft, 600 ftC) 400 ft, 400 ft, 400 ft) lake-front lot has he third side is 300	a perimeter of 1300 ft. One side ft longer than the shortest side. B) 100 ft, 200 ft, 300 ft D) 400 ft, 500 ft, 700 ft	is 100 ft longer than Find the lengths of all	117)
118) Gloria collected 21 fanta many comets did Gloria A) 9 comets	il and comet goldfis have? B) 16 comets	h. There were 5 fewer fantails t C) 8 comets	han comets. How D) 13 comets	118)
119) The two largest oil spills of the two released 27 m of oil did the larger one :	together released 3 illion gallons less th release?	59 million gallons of oil into the an the larger of the two. How r	e oceans. The smaller nany million gallons	119)

		A) 110 million gallons C) 332 million gallons		B) 193 million gallons D) 166 million gallons		
	120)	A biologist collected 267 fe How many fern samples d	ern and moss samples. Th id the biologist collect?	ere were 83 fewer ferns t	han moss samples.	120)
		A) 184 fern samples	-	B) 92 fern samples		
		C) 175 fern samples		D) 129 fern samples		
	121)	In a recent school board el	ection, the two candidate	s for president received 2	398 votes. The loser	121)
		A) 992 votes	B) 1654 votes	C) 1902 votes	D) 496 votes	
Solv	e the	percent problem.				
	122)	If Gloria received a 8 perce the raise?	ent raise and is now maki	ng \$24,840 a year, what w	vas her salary before	122)
		A) \$23,000	B) \$22,840	C) \$23,840	D) \$24,000	
	123)	Stevie bought a stereo for stereo?	\$245 and put it on sale at	his store at a 65% markup	o rate. What was the	123)
		A) \$345.00	B) \$304.25	C) \$490.00	D) \$404.25	
	124)	An investor bought 100 sh them. How much did the i	ares of stock. The value o nvestor pay for the 100 sl	of the shares went up 9% a hares if he sold them for ^{\$}	and then he sold 1635?	124)
		A) \$1550	B) \$1585	C) \$1500	D) \$1782	
	125)	At the end of the day, a sto goods and the sales tax of	orekeeper had \$1030 in th 3%. Find the amount that	e cash register, counting l t is the tax.	both the sale of	125)
		A) \$35	B) \$25	C) \$20	D) \$30	
	126)	After receiving a discount pays \$4394. What was the	of 15.5% on its bulk orde price of the order before	r of typewriter ribbons, Jo the discount?	ohn's Office Supply	126)
		A) \$3713	B) \$5200	C) \$3933	D) \$5075	
	127)	After spending \$3850 for to of his original budget remained dollar if necessary	ables and \$4050 for chairs ains. Find the amount tha	s, a convention center man at remains. Round your ar	nager finds that 45% nswer to the nearest	127)
		A) \$6464	B) \$3555	C) \$7364	D) \$14,364	
	128)	Midtown Antiques collects the portion that is the tax.	s 2% sales tax on all sales. Round your answer to th	. If total sales including ta e nearest cent.	x are \$1790.78, find	128)
		A) \$35.82	B) \$1755.67	C) \$25.11	D) \$35.11	
Solv	e the	investment problem.				
	129)	Mardi received an inherita in tax-free bonds at 8%. He amount invested at 10%.	nce ot \$70,000. She invester total annual income fro	ted part at 10% and depos om the investments was \$	sited the remainder 6200. Find the	129)
		A) \$63,800	B) \$29,000	C) \$30,000	D) \$15,000	
	130)	Walt made an extra \$10,00 and the rest at 8%. He mad A) \$6000	0 last year from a part-tir le a total of \$740 in intere B) \$5000	ne job. He invested part o st. How much was invest C) \$4000	of the money at 7% ed at 8%? D) \$8000	130)
		., +	, +	-, +	, +	

131)	1) Roberto invested some money at 6%, and then invested \$5000 more than twice this amount at 11%. His total annual income from the two investments was \$4190. How much was invested at 11%?							
	A) \$31,000	B) \$3100	C) \$26,000	D) \$15,000				
Solve the	e mixture problem.							
132)) It is necessary to hav has 40 liters of 20% s antifreeze to get the	e a 40% antifreeze solutic olution. How many liters desired strength?	on in the radiator of a certa of this should be drained	in car. The radiator now and replaced with 100%	132)			
	A) 20 liters	B) 16 liters	C) 10 liters	D) 13.3 liters				
133)) How many liters of a 40% solution?	a 30% alcohol solution mu	ist be mixed with 60 liters	of a 50% solution to get a	133)			
	A) 12 liters	B) 120 liters	C) 60 liters	D) 6 liters				
134)) In a chemistry class, get a 6% solution. He	6 liters of a 4% silver iodi ow many liters of the 10%	de solution must be mixed solution are needed?	l with a 10% solution to	134)			
	A) 4 liters	B) 6 liters	C) 2 liters	D) 3 liters				
135)) A merchant has coffe \$8 a pound to get a n used?	ee worth \$4 a pound that nixture worth \$7 a pound	she wishes to mix with 90 . How many pounds of th	pounds of coffee worth e \$4 coffee should be	135)			
	A) 30 lb	B) 60 lb	C) 120 lb	D) 15 lb				
Solve the	e problem.) Jay drove 288 kilome take?	eters at the average rate of	f 72 kilometers per hour. H	Iow long did the trip	136)			
	A) 2 hours	B) 4 hours	C) 3 hours	D) 5 hours				
137)) Janet drove 244 kilor A) 81 kilometers p C) 71 kilometers p	neters and the trip took 4 er hour er hour	hours. How fast was Jane B) 51 kilometers pe D) 61 kilometers pe	t traveling? er hour er hour	137)			
138)) What amount of mor A) \$4.75	ney is found in a coin pur B) \$2.95	se containing 17 dimes and C) \$0.22	d 5 quarters? D) \$295.00	138)			
139)) An equilateral triang sides each measure t	le has perimeter 18 inche he same length as the side	s. What would be the perin e of the triangle?	meter of a square whose	139)			
	A) 12 inches	B) 6 inches	C) 24 inches	D) 36 inches				
140)) A convention manag of 46 bills. How man	er finds that she has \$128 y fifty-dollar bills does th	0, made up of twenties an e manager have?	d fifties. She has a total	140)			
	A) 46	B) 34	C) 8	D) 12				
141)) A woman has \$1.70 i does she have?	n dimes and nickels. She	has 5 more dimes than nic	kels. How many nickels	141)			
	A) 8	B) 3	C) 18	D) 13				
142)) A bank teller has son twenties. The total va has.	ne five-dollar bills and so alue of the money is \$800.	me twenty-dollar bills. Th . Find the number of five-c	e teller has 5 more of the lollar bills that the teller	142)			
	A) 28	B) 33	C) 38	D) 23				

143) A cashier has a total of 122 bills, made up of fives and tens. The total value of the money is \$780.							
	How many ten-dollar bill	s does the cashier have?					
	A) 17	B) 34	C) 51	D) 88			
144)	There were 530 people at The admission receipts w A) 210 adults and 320 c	a play. The admission pr ere \$740. How many adu hildren	ice was \$2.00 for adults an Its and children attended? B) 320 adults and 210 c	d \$1.00 for children. hildren	144)		
	C) 185 adults and 345 c	hildren	D) 160 adults and 370 c.	hildren			
145)	There were 39,000 people many people paid \$12.00 A) 13,500 paid \$12 and C) 30,000 paid \$12 and	at a ball game in Los Ang for reserved seats and ho 25,500 paid \$6 9000 paid \$6	geles. The day's receipts w w many paid \$6.00 for gen B) 9000 paid \$12 and 30 D) 25,500 paid \$12 and	rere \$288,000. How neral admission?),000 paid \$6 13,500 paid \$6	145)		
146)	Jill is 13.5 kilometers awa	y from Joe. Both begin to	walk toward each other at	t the same time. Jill	146)		
	walks at 2 kilometers per	hour. They meet in 3 hou	rs. How fast is Joe walkin	g?			
	A) 2.5 kilometers per h	our	B) 3.5 kilometers per ho	our			
	C) 2 kilometers per hou	ır	D) 4.5 kilometers per ho	our			
147) Bert is 26 kilometers away from Brenda. Both begin to walk toward each other at the same time.Bert walks at 3.5 kilometers per hour. They meet in 4 hours. How fast is Brenda walking?A) 4 kilometers per hourB) 3 kilometers per hour							
	C) 5 kilometers per hou	ır	D) 3.5 kilometers per ho	our			
148) Candy and Delvis are riding bicycles in the same direction. Candy is traveling at a speed of 6 miles per hour, and Delvis is traveling at a speed of 11 miles per hour. In 2 hours what is the distance between them (assuming that they began at the same point and time)?							
	,	,	,	,			
149)	From a point on a river, t	wo boats are driven in op	posite directions, one at 8	miles per hour and	149)		
	the other at 14 miles per h	our. In how many hours	will they be 110 miles apa	rt?			
	A) 1 hour	B) 7 hours	C) 6 hours	D) 5 hours			
150)	The speed of a stream is 6 takes to travel 46 miles up	mph. If a boat travels 92 pstream, what is the speed	miles downstream in the d of the boat in still water?	same time that it	150)		
	A) 12 mph	B) 20 mph	C) 21 mph	D) 18 mph			
151)	A plane flies 420 miles wi If the speed of the wind is	th the wind and 350 mile 5 21 mph, what is the spee	s against the wind in the s ed of the plane in still air?	ame length of time.	151)		
	A) 256 mph	B) 231 mph	C) 236 mph	D) 221 mph			
152)	Tom Quig traveled 260 m one period of time he was was 8 hours, how many n	iles east of St. Louis. For s slowed to 20 mph due to niles did he drive at the ro	most of the trip he average to a major accident. If the to educed speed?	ed 70 mph, but for otal time of travel	152)		
	A) 120 miles	B) 115 miles	C) 140 miles	D) 130 miles			
153)	Find the measures of the	supplementary angles. ㅋ			153)		
	(11n + 45)° (3n +	23)°					
	A) 133°, 47°	→ B) 47°, 43°	C) 43°, 47°	D) 137°, 43°			

154) Find the measures of the complementary angles. \uparrow ?

$$(4n)^{\circ} (14n - 72)^{\circ} (14n - 72)^{\circ} A) 39^{\circ}, 51^{\circ} B) 36^{\circ}, 144^{\circ} C) 43^{\circ}, 47^{\circ} D) 36^{\circ}, 54^{\circ}$$

C) 34°, 125°, 21° D) 32°, 37°, 21°

155) Find the measure of each angle in the triangle.

(5n + 60)° (4n - 18)° (n + 8)° A) 38°, 123°, 19° B) 28°, 128°, 24°

156) Find the measures of the supplementary angles.



157) Find the measures of the complementary angles.



158) Find the measures of the complementary angles.



C) 45°, 45°

C) 45°, 45°

D) 80°, 100°

D) 5°, 5°

159) Find the measures of the vertical angles.



160) Find the measure of each angle in the triangle.

154) ____

155) _____

156) ____

157) ____

158)

159)

160 - 2))°
(5n - 18)°	(n + 8)°

	A) 62°, 4°, 24°	B) 62°, 94°, 24°	C) 80°, 96°, 16°	D) 28°, 94°, 24°	
Solve the	problem involving consec	utive integers.			
161)	The sum of three consecuti A) 87, 89, 91	ve odd integers is 261. Fi B) 85, 87, 89	nd the integers. C) 80, 81, 82	D) 89, 91, 93	161)
			1	, , - ,	1 (2)
162)	A) -153	e integers is -309. Find th B) -154	e larger integer. C) -156	D) -155	162)
163)	Two pages that face each o number of the page that co	ther in a book have 353 a mes first?	s the sum of their page nu	umbers. What is the	163)
	A) 174	B) 177	C) 175	D) 176	
164)	If three times the smaller o is 67. Find the smaller integ	f two consecutive integer ger.	s is added to four times th	ne larger, the result	164)
	A) 27	B) 9	C) 10	D) 8	
165)	If the first and third of thre times the second integer. F	e consecutive odd intege ind the third integer.	rs are added, the result is	57 less than five	165)
	A) 21	B) 38	C) 19	D) 17	
166)	The sum of the page numb A) 156	ers on the facing pages of B) 153	f a book is 315. Find the la C) 158	nrger page number. D) 168	166)
SHORT A Provide an 167)	NSWER. Write the word appropriate response. When solving a "word prob solution of the equation is a	l or phrase that best com blem" we set up an equat not the answer to the pro	pletes each statement or ion in x. Give an example blem.	answers the question where the 167)	
168)	Two angles are complemer angle?	ntary. One of the angles is	s r. How do you express t	he other 168)	
MULTIPL 169)	E CHOICE. Choose the of Which two of the following rate and time? (a) $\frac{d}{t} = r$ (b) dr = t	one alternative that best g equations do not correc	completes the statement tly state the relationship b	or answers the questi between distance,	on. 169)
	(c) = a (a) = t A) (b) & (c)	B) (a) & (c)	C) (b) & (d)	D) (a) & (d)	

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

170) One student solved a problem involving money by using a denomination based on cents and not on dollars. For example, she multiplied the number of nickels by 5 cents and not by \$0.05. Was she wrong?

	171) If you are given the measures of the two other	are of one angle of a triang angles?	gle, would you be able to	provide the 171)	
	172) Suppose you were to solve in miles per hour and the traveled? If so, how would	e a problem involving mo time in minutes. Would y l you go about it?	otion, and the problem ga rou be able to determine t	ve the rate 172) he distance	
MUI	LTIPLE CHOICE. Choose the	one alternative that best	completes the statement	or answers the questi	on.
Writ	te an inequality statement invo 173) (4, ∞)	lving the letter x that des	cribes the given graph or	r interval notation.	173)
	A) $x \ge 4$	B) x < 4	C) x ≤ 4	D) x > 4	-)
	174)				174)
	-7 -6 -5 -4 -3 -2 -1 0 1	1 + 1 + 1 2 3 4 5 6 7			
	A) x > 2	B) x < 2	C) x ≥ 2	D) x ≤ 2	
	175)				175)
	-7 -6 -5 -4 -3 -2 -1 0 1	2 3 4 5 6 7			
	A) x > 7	B) x < 7	C) x ≥ 7	D) x ≤ 7	
	176) (-∞, -2)				176)
	A) x ≤ -2	B) x > -2	C) x < -2	D) x ≥ -2	
	177) (-2, 2)				177)
	A) $-2 < x < 2$	B) $-2 \le x < 2$	$C) - 2 \leq x \leq 2$	D) $-2 < x \le 2$	
	178)				178)
	-7 -6 -5 -4 -3 -2 -1 0 1	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
	A) $-5 < x < -1$	B) -5 ≤ x < -1	C) $-5 \le x \le -1$	D) -5 < x ≤ -1	
	179) [-1, 3)				179)
	A) -1 ≤ x < 3	B) -1 < x ≤ 3	C) -1 < x < 3	D) $-1 \le x \le 3$	

Solve the inequality. Give the solution set in both interval and graph forms. 180) a + 4 < -8

180) _____

181) -3 z - 2 > -4 z + 3

< | | | | | | | | | | | +++A) (-∞, 1) -6 -5 -4 -3 -2 -1 0 5 6 7 8 4 4 3 B) (5, ∞) -2 -1 0 1 2 3 4 9 10 11 12 ş 7 8 6 C) (-∞, 5) 9 10 11 12 (-2 -1 0 1 2 3 4 5)8 D) (1, ∞) -4 -3 -2 -1 0 1 2 3 4 5 6 7 8

182) 13 y + 6 ≤ 12 y + 16

183) 6 x - 5 \ge 5 x + 3

182) _____

183) _____



185) _____

186) ____



187) $\frac{7x-5}{-9} < \frac{58}{7}$



187) _____



$$(193)$$

$$(-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7$$

$$A) [-5, -1]$$

$$(-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7$$

$$C) (-5, -1)$$

$$(-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7$$

$$194) 9 < -3 \ y + 3 \le 21$$

$$(-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7$$

$$A) [-6, -2)$$

195)
$$3x - 1$$

 $6 \leq 2 \leq 12$



196) 4 < 1 - 4x ≤ 12





B)
$$(-6, -2]$$

 $(-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7)$
D) $[2, 6)$
 $(-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7)$

195) _____







Solve the problem.

197) A salesperson has two job offers. Company A offers a weekly salary of \$210 plus commission of 197 6% of sales. Company B offers a weekly salary of \$420 plus commission of 3% of sales. What is the amount of sales above which Company A's offer is the better of the two?						
A) \$7000	B) \$7100	C) \$14,000	D) \$3500			
198) Company A rents cop copiers for a monthly which Company A's	piers for a monthly charge charge of \$600 plus 5 cent charges are the higher of tl	of \$300 plus 10 cents per ts per copy. What is the n he two?	copy. Company B rents umber of copies above	198)		
A) 6100 copies	B) 3000 copies	C) 12,000 copies	D) 6000 copies			
199) A car rental company \$60 per day plus \$.0 need to drive to pay 1	7 has two rental rates. Rate ⁶ per mile. If you plan to r less by taking Rate 2?	1 is ^{\$30} per day plus ^{\$.;} ent for one day, how mar	¹² per mile. Rate 2 is ny miles would you	199)		
A) more than 600 r	niles	B) more than 500 m	niles			
C) more than 1000	miles	D) more than 250 m	illes			
200) Jim has gotten scores	of 71 and 87 on his first tw	vo tests. What score must	he get on his third test	200)		
to keep an average of	80 or greater? B) At least 79	C) At least 79 3	D) At least 82			
n) ni least or	b) Itt least / y	C) In least 19.5	D f			
201) A bag of marbles has marbles in it. At least	twice as many blue marbl how many green marbles	es as green marbles, and does it have?	the bag has at least 9	201)		
A) At least 4 green	marbles	B) At least 5 green	marbles			
C) At least 3 green	marbles	D) At least 6 green	marbles			
202) Jon has 816 points in the term to receive cr must earn by the end	his math class. He must ha edit for the class. What is t of the term to receive crec	ave 89% of the 1000 point: he minimum number of a lit for the class?	s possible by the end of additional points he	202)		
A) 726 points	B) 890 points	C) 74 points	D) 184 points			
203) Correct Computers, I	nc. finds that the cost to m	ake x laptop computers is	_s C = 2253x + 109,453,	203)		
while the revenue pro	oduced from them is $R = 4$	1042x (C and R are in doll	ars). What is the			
smallest whole numb	per of computers, x, that m	ust be sold for the compa	ny to show a profit?			
A) 18	B) 195,811,417	C) 62	D) 689,006,635			
204) Fantastic Flags, Inc. f	inds that the cost to make	x flags is $C = 7x + 19,484$,	while the revenue	204)		
produced from them	is $R = 31x$ (C and R are in	dollars). What is the small	llest whole number of			
A) 513	B) 812	C) 740,392	D) 467,616			
205) Behemoth Back Pack	s, Inc. finds that the cost to	make x back packs is C	= 98x + 8370, while the	205)		
revenue produced fro	om them is $R = 180x$ (C and s x that must be sold for t	d R are in dollars). What i	is the smallest whole			

А	.) 31	B) 2,326,860	C) 103	D) 686,340	
206) Pizz	zicato Pizza, Inc. finds th $7x \pm 4089$	nat the cost to make x piz	zas (with one topping) is R = 14x (G = 1 B	• 1 11 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	206)
C	while the rev	enue produced from the	m is $K = 14x$ (C and R are	in dollars). What is	
the A	3 85 869	B) 195	C) 585	show a profit? D 28 623	
13		<i>b</i>) 190	C) 000	0)20,020	
207) Mir	aculous Music, Inc. find	s that the cost to make x	compact discs is $C = 8x + $	16,781, while the	207)
reve	enue produced from the	em is $R = 17x$ (C and R are	e in dollars). What is the s	smallest whole	
nun	nber of compact discs, x	, that must be sold for the	e company to show a pro	fit?	
А	.) 1865	B) 419,525	C) 151,029	D) 672	
Ancwartha a	unstion or colve the pro	hlam			
208) Tru	e or False? If $x < 5$ then	-3x < -15			208)
200) IIa A	A) True	UX < 10.	B) False		200)
	,		,		
209) Tru	e or False? If $x > 2$ then	6x > 12.			209)
А) True		B) False		
SHORT ANS	WFR Write the word	or phrase that best com	alatas aach statamant ar :	answers the auestion	
210) Und	der what conditions mus	st the inequality symbol h	be reversed when solving	ran 210)	•
inec	quality?				
211) In s	olving the inequality 3x	\leq -6, would you have to :	reverse the inequality syr	nbol? 211)	
Éxp	lain why.	, ,	1 5 5)	
-					
212) The	three-part inequality a	< x ≤ b means "a is less th	an x and x is less than or	equal to 212)	
b". \	Which of these inequalit	ies is not satisfied by any	real number x?		
(a) -	$-5 < x \leq -11$				
(b) ·	$-8 < x \leq -7$				
(d)- (d)-	$0 < x \le 4$ $2 < x \le 6$				
(u)	2 < X = 0				
213)		<u>1</u> <u>1</u>		213)	
If a	< b, is it always true that	a > b ? Explain.			
	, ,	1			
²¹⁴⁾ If b	< 0, is it true that $b^2 > 1$	b? Explain.		214)	
	-,	I.			
215) If a	≤ b, is it always true tha	t a + 2 \leq b + 2? Explain.		215)	
	A 1 • • • 1 • • • • • • • • • • • • • • •			21 ()	
216) If a	≤ b, is it always true tha	it -8a ≤ -8b? Explain.		216)	
217) то		$a^2 < b^2$ Evelvin		217)	
' II a	= 0, is it always true tha	\simeq : Explain.		/	· · · · · · · · · · · · · · · · · · ·
MULTIPLE C	HOICE. Choose the o	one alternative that best o	completes the statement	or answers the questi	on.
Let $\mathbf{A} = \{\mathbf{q}, \mathbf{s}, \mathbf{q}\}$	u, v, w, x, y, z}, B = {a, s,	$\{v, z\}, C = \{v, w, x, y, z\},$	and $D = \{s\}$. Specify the	following set.	
218) A ſ	н В	v		0	218)
А	(v, x) (v, x)	B) {q, s, u, v, w, y}	C) {q, s, y, z} or B	D) {s, u, v, w, x, z}	

219) A ∪ B	
A) {v, x}	B) {s, u, v, w, x, z}

	C) {s, u, w}		D) {q, s, u, v, w, x, y, z} or A					
220) A	A∩D A) {v, x}		B) {s} or D		220)			
	C) {q, s, u, v, w, x, y}		D) {s, u, w}					
221) (C U B A) {q, s, u, v, w, x, y} C) {s, u, w}		B) {q, s, v, w, x, y, z} D) {s, u, v, w, x, z}		221)			
222) E	3 ∩ C A) {q, s, w, y, z}	B) {q, y, z}	C) {q, w, y}	D) {y, z}	222)			
223) E	3 U C A) {q, s, v, w, x, y, z} C) {y, z}		B) {q, s, u, w, y, z} D) {q, w, y, z}		223)			
224) (C U D A) {s, u, w, y, z}	B) {w, y}	C) {w, y, z}	D) {s, v, w, x, y, z}	224)			
225) C	C ∩ D A) Ø	B) {q, w, y}	C) {q, y, z}	D) {q, s, u, w, y, z}	225)			
226) C	C ∪ A A) Ø C) {q, s, u, v, w, x, y, z} o	or A	B) {q, s, u, v, x, y, z} D) {s, t}		226)			
227) A	A∩Ø A) {q, s, u, v, x, z} C) Ø		B) {q, s, u, v, w, x, y, z} D) {w, y}	or A	227)			

Graph the union or intersection of the two sets, as requested.

228) Intersection



229) Intersection

229) -10 -8 -6 -4 -2

228) _____

A)

$$(-10 - 8 - 6 - 4 - 2 0 2 4 6 8 10)$$

B)
 $(-10 - 8 - 6 - 4 - 2 0 2 4 6 8 10)$
C)
 $(-10 - 8 - 6 - 4 - 2 0 2 4 6 8 10)$
C)

230) Union



231) Union

-10 -8 -6 -4 -2 0 2 4 6 8 10 -10 -8 -6 -4 -2 0 2 4 10 6 8 A) -10 -8 -6 -4 -2 0 +++> 8 10 2 6 4 B) -10 -8 -6 -4 -2 0 2 4 6 8 10 C) -10 -8 -6 -4 -2 0 2 4 10 8 6

For the compound inequality, give the solution set in both interval and graph forms.

232) $x \ge 2$ and $x \ge -3$

$$\begin{array}{c} \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ A) [2, \infty) \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ C) (2, \infty) \end{array} B) (-\infty, -3] \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7} \\ \overbrace{-7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7}$$

230) ____

231) _____

D) (-∞, 2]

233) $6x + 6 \ge 24$ and $6x + 6 \le 48$

←	 -5 -4 7)	-3	-2 -	 -1	0	1	2	3	4	5	6	 7	÷		
↔ B) (3 /	+ + -7 -(7]	5 -5	+ -4	-3	-2	-1	0	1	12	3	4	5	6	ł	\rightarrow
(0,	-7 -(5 -5	-4	-3	-2	-1	0	1	1	5	4	5	6	7	\rightarrow
C) (3, 2 ←	7) -7 -6	5 -5	-4	-3	-2	-1	0	1	1	5	4	+ 5	6	7	\rightarrow
D) [3, 2 ←	7] + + -7 -0	5 -5	-4	-3	-2	-1	0	1	2	3	4	+ 5	6	7	\rightarrow

234) -12 < 3x - 6 and 8x - 4 < 12



235) $-21 \le 5x - 6$ and 5x + 4 < 9

233) _____

234) _____

236) $6x - 2 \ge -32$ and $2x - 7 \ge -1$

237) 2x + 9 < -1 and -2 - 6x > 16

 $(-\infty, -5) \cup (-\infty, -5) \cup (-3, \infty)$

238) $4x - 10 \le 18$ and $2x - 1 \ge 13$

 $(-\infty, 7)$ $(-\infty, 7)$ $(-9 - 8 - 7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7 \ 8 \ 9$ $(-9 - 8 - 7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7 \ 8 \ 9$ $(-9 - 8 - 7 - 6 - 5 - 4 - 3 - 2 - 1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6 \ 7 \ 8 \ 9$ $(-\infty, 7)$

236) _____

237) _____

-9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9

239) 4x > 4 and x + 5 < 5239) ____ -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 A) [-1, 0] -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 B) [-1, 0) -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 C)Ø -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 D) (-1, 0] (-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 240) ____ 240) 5x - 1 < 4 and x - 2 > -1 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 A) Ø -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 B) (0, 1) -7 -6 -5 -4 -3 -2 -1 2 3 4 5 6 7 0 4 C) [0, 1] -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 D) {1} -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 241) $x \le 2 \text{ or } x \ge 5$ 241) _____ _____> A) (-∞, 2] ∪ [5,∞) B) [-5, -2] -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 C) (-2, 5) D) (2, 5) \leftarrow 5 6 7 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4

>

242) x < 3 or x < 7

←

242) _____

A) (-∞, 7)

-10 -9 -8 -7	-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10	
	B) (-∞, 3) ∪ (7, ∞)	
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	₩
	(-10 - 9 - 8 - 7 - 6 - 5 - 4 - 3 - 2 - 1 0 1 2 3 4 5 6 7 8 9 1 D) $(3, \infty)$	+→ 10
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	+→ 10

243) x > 3 or x < 3

 $\leftarrow \rightarrow$

244) x - 2 > 2 or x + 3 < 1

(

245) $6x - 4 < 2x \text{ or } -4x \leq -12$

243) _____

244) _____

(
-7 -6 -5 -4 -3 -2 -1 0 1 2 :	3 4 5 6 7			
В) Ф				
-7 -6 -5 -4 -3	3 -2 -1 0 1 2 3 4 5 6	\rightarrow 5 7		
C) (1, 3)				
\leftarrow	· · · · / · · · · · · ·	→		
-7 -6 -5 -4 -3	3-2-10123456	5 7		
D) [1, 3]				
← + + + + + + + + + + + + + + + + + + +	B -2 -1 0 1 2 3 4 5 6	→ 5 7		
246) - $7x + 1 \ge 15$ or $6x + 3$	3 ≥ -21			246)
<i>←</i>				
A) (-∞,∞)				
<		+		
-7 -6 -5 -4 -3 -	2 -1 0 1 2 3 4 5 6	7		
B) [-4, ∞)				
-7 -6 -5 -4 -3 -	2 -1 0 1 2 3 4 5 6	+ → 7		
C) [-4, -2]				
(↔		
-7 -6 -5 -4 -3 -	2 -1 0 1 2 3 4 5 6	7		
D) [-2, ∞)				
-7 -6 -5 -4 -3 -	2 -1 0 1 2 3 4 5 6	+ → 7		
Express the set in the simplest	t interval form.			
247) (-∞, 7) I I (-8, ∞) A) [-8, 7)	B) (-8, 7)	C) (-∞,∞)	D) (-∞, -8]	247)
11)[0,7)	<i>b</i>)(0,7)			
248) (-1, 6] ∩ (1, ∞)				248)
A) (-1, ∞)	B) (-1, 6]	C) (1, 6]	D) [1, 6]	
249) (-∞, 5] ∪ (-∞, -4)				249)
A) (-4, 5]	B) (-∞, -4]	C) (-∞, 5)	D) (-∞, 5]	
				250)
250) (-7, 4) ∪ [-3, 9] A) (-7, 4)	B) [-3 9]	(-) [-3 4)	D) (-7 91	250)
· · / (· / , · · /		$\nabla ([J, \pm)$		

For the compound inequality, decide whether intersection or union should be used. Then give the solution set in both interval and graph forms.

251) $x \le -3$ and x < -2

251) _____

A) Intersection; (-∞, -3]

 $\underbrace{-10 - 8 - 6 - 4 - 2 \ 0 \ 2 \ 4 \ 6 \ 8 \ 10}_{\text{B) Union; } (-\infty, \infty)}$

-10 -8 -6 -4 -2 0 2 4 6 8 10
C) Intersection; [-3, -2)
$(-\infty, -2) \xrightarrow{(-\infty, -2)} + + + + + + + + + + + + + + + + + + +$
-10 -8 -6 -4 -2 0 2 4 6 8 10
252) $x \ge 3$ and $x < 10$
\leftarrow
A) Union; (-∞, ∞)
(-10 - 8 - 6 - 4 - 2 0 2 4 6 8 10) B) Intersection: [2, 10]
b) intersection, [5, 10)
(++++++++++++++++++++++++++++++++++++
< + + + + + + + + + + + + + + + + + + +
-10 -8 -6 -4 -2 0 2 4 6 8 10 D) Intersection; Ø
253) x < 1 or x > -9
\longleftrightarrow
A) Intersection; $(-\infty, 1)$
-10 -8 -6 -4 -2 0 2 4 6 8 10 B) Intersection; [-9, 1)
< + (+ + + + + + + + = 1 + + + + + + → + + + + + + + + → → → → → → → → → → →
-10 -8 -6 -4 -2 0 2 4 6 8 10 C) Union; $(-\infty, \infty)$
++++++++++++++++++++++++++++++++++++
-10 -8 -6 -4 -2 0 2 4 6 8 10
254) $x \le -3$ or $x > 2$
$\leftarrow \rightarrow$
A) Union; (-∞, -3] ∪ (2, ∞)
-10 - 8 - 6 - 4 - 2 0 2 4 6 8 10
B) Union; $(-\infty, \infty)$
-10 -8 -6 -4 -2 0 2 4 6 8 10

252) _____

253) ____



Each of six decorators has to paint a room (walls only) and put a wallpaper border around the room at the ceiling. One gallon of paint covers 400 sq ft, and one roll of border contains five yards. Each decorator has one gallon of paint and three rolls of border.

256) The list gives the names of each decorator and the size of the room.

Jane	9' x 12'
Sam	10' x 12'
Noriko	12' x 12'
Sergey	12' x 13'
Juanita	14' x 17'
Pedro	13' x 15'

Give the names of the decorators who will have both enough paint and enough border for their rooms. (Assume a ceiling height of 8' for each room.)

A)	{Noriko,	Sergey}	
----	----------	---------	--

`	0	0	,
A) {Noriko, Sergey}			B) {Juanita, Pedro}
C) {Jane, Sam}			D) None

257) The list gives the name of each decorator and the size of the room.

Sue	9' x 12'
Sam	10' x 12'
Irina	12' x 12'
Sergey	12' x 13'
Consuela	14' x 17'
Manuel	13' x 15'

Give the names of the decorators who will have enough paint, but will not have enough border for their rooms. (Assume a ceiling height of 8' for each room.)

A) {Sue, Sam} B) {Consuela, Manuel} 255) ____

256) _____

D) None

258) The list gives the name of each decorator and the size of the room.

Mary	9' x 12'		
John	10' x 12'		
Noriko	12' x 12'		
Sun Woo	12' x 13'		
Rosa	14' x 17'		
Pedro	13' x 15'		

Give the names of the decorators who will not have enough paint, but will have enough border for their rooms. (Assume a ceiling height of 8' for each room.)

A) {Noriko, Sun Woo}	B) {Rosa, Pedro}
C) {Mary, John}	D) None

259) The list gives the name of each decorator and the size of the room.

 Sue
 9' x 12'

 John
 10' x 12'

 Yong Sun
 12' x 12'

 Ajay
 12' x 13'

 Rosa
 14' x 17'

 Pedro
 13' x 15'

Give the names of the decorators who will have neither enough paint nor enough border. (Assume a ceiling height of 8' for each room.)

0 0	· · · · · · · · · · · · · · · · · · ·
A) {Yong Sun, Ajay}	B) {Sue, John]
C) {Rosa, Pedro}	D) None

260) The list gives the name of each decorator and the size of the room.

Jane	9' x 12'
Sam	10' x 12'
Noriko	12' x 12'
Sun Woo	12' x 13'
Consuela	14' x 17'
Manuel	13' x 15'

Give the names of the decorators who will have either enough paint or enough border or both. (Assume a ceiling height of 8' for each room.)

A) {Consuela, Manuel}	B) All
C) {Jane, Sam, Noriko, Sun Woo}	D) None

True or false?

261) (A ∩ B) ∩ C = A ∩ (B ∩ C) A) True	B) False	261)
262) $(A \cup B) \cap C = A \cup (B \cap C)$ A) True	B) False	262)
		2(2)

263) The intersection of the sets (-∞, 23) and (23, ∞) is {23}. 263) _____ A) True B) False

258) ____

259) ____

	264)	264) The union of the sets (-∞, 12] and (12, ∞) is (-∞, ∞) A) True B) False								
	265)	5) The intersection of the set of rational numbers and the set of whole numbers is the set of rational numbers.								
		A) True		B) False						
	266)	The union of the set of ratio A) True	onal numbers and the set	of integers is the set of ra B) False	tional numbers.	266)				
	267)	"You win if your card cont to a real-life situation.	ains the number 23 or the	number 45" is an exampl	e of union applied	267)				
		A) True		B) False						
	268)	The intersection of the set of A) True	of positive numbers and t	he set of negative number B) False	rs is {0}.	268)				
	269)	The intersection of the set of A) True	of nonpositive rational nu	mbers and the set of who B) False	le numbers is {0}.	269)				
Solv	e the	equation.								
	270)	x = 4	\mathbf{B} (4)	C [4]	D [4 4]	270)				
			D) (-4)		D) (4, -4)					
	271)	$ \mathbf{x} = 6.9$ A) {4761}	B) {6 9}	C) $\{69, -69\}$	D) {-6.9}	271)				
			<i>D</i>) (0.7)		D) (0.7)					
	272)	$\begin{vmatrix} 8x \\ -2, 2 \end{vmatrix}$	B) {0, 2}	$() \{2\}$	D) $\{-2, 0\}$	272)				
			<i>D</i>) (0) <i>D</i>)							
	273)	t - 9 = 0 A) $(-\infty, -9] \cup [9, \infty)$	B) {-9}	C) {9}	D) Ø	273)				
	074)			-)()	,	274				
	274)	0+9 = 5 A) Ø	B) {-4}	C) {-4, -14}	D) {4, 14}	274)				
		6m + 5	, ()	, , , ,	, , , ,	075)				
	275)	$A) \int \frac{1}{1} \frac{11}{11}$	B) <u>[1 11]</u>	C) $\begin{bmatrix} 1 & 11 \end{bmatrix}$	D) Ø	275)				
		$\left\{ -\frac{1}{6}, \frac{1}{6} \right\}$	$\left\{ \overline{6'} - \overline{6} \right\}$	$\left\{\frac{5}{5}, \frac{5}{5}\right\}$						
	276)	9 - 3p = 6				276)				
		A) {1, 5}	B) {-5, -1}	C) {5}	D) {- 5, 1}					
	277)	$5 + \frac{1}{6}x$				277)				
		$\begin{vmatrix} 6 \\ -4 \end{vmatrix} = 4$	R) Ø	(-) (6. 54)	D [54 6]					
		A) {-34, -0}	ν ر	Cj {0, 04}	ע [ט4, -ס]					
	278)	$11 - \frac{12}{5}x$				278)				
		A) $\left\{ \frac{35}{6}, \frac{10}{3} \right\}$	B) {- 14, 8}	C) {8, 14}	$D\left\{-\frac{35}{6},\frac{10}{3}\right\}$					

	279) $ 0.05x - 3 = 6.05$				279)
	A) {0, 181}	B) {61, 181}	C) {-61, 181}	D) {181}	
	280) $ 5 - 0.05x = 5$				280)
	A) {0, 100}	B) {0, 200}	C) {100}	D) {200}	
Solv	The the inequality and graph the set $281) \mathbf{x} > 1$	e solution set.			281)
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0 2 4 6 8 10	$11 \rightarrow 12$ 14		
	-14 -12 -10 -8 -6 - B) (1, ∞)	4 -2 0 2 4 6 8	10 12 14		
	(+ + + + + + + + + + + + + + + + + + +	4 -2 0 2 4 6 8	10 12 14		
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	4 -2 0 2 4 6 8	$\begin{array}{c c} 1 & 1 & 1 \\ \hline 1 & 12 & 14 \end{array}$		
	-14 -12 -10 -8 -6 -	(++) $(++++++++++++++++++++++++++++++++++++$	10 12 14		
	282) r - 4 _{> 3}				282)
	(0 2 4 6 8 10 12 14	111) 16 18		
	<pre></pre>	-4 -2 0 2 4 6 8 10	12 14 16 18		
	<	-4 -2 0 2 4 6 8 10	12 14 16 18		
	-18-16-14-12-10 -8 -6 D) (1, 7)	-4 -2 0 2 4 6 8 10	12 14 16 18		
	-18-16-14-12-10 -8 -6	-4 -2 0 2 4 6 8 10	11 14 16 18		
	283) $ 9x - 5 \ge 7$				283)
	$ \begin{array}{c} \underbrace{(1 - 12 - 10 - 8 - 6 - 4 - 2)}_{A} \\ \left[-\infty, -\frac{2}{9} \right]_{U} \\ \underbrace{\left[\frac{4}{3}, \infty \right]}_{A} \end{array} $	0 2 4 6 8 10	$11 \rightarrow 12 14$		
	$ \begin{array}{c} 4 \\ -14 \\ -12 \\ -10 \\ -8 \\ -6 \\ -8 \\ -8$	4 -2 0 2 4 6 8	10 12 14		

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
$ \begin{array}{c} (1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 $
Image: 10 -8 -6 -4 -2 Image: 10 -8 -6 -4 -2
$284) 4 - x \ge 8$
-18-16-14-12-10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18 A) [12, ∞)
<pre>-18-16-14-12-10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18 B) [-4,∞)</pre>
$(-\infty, -4] \cup [12, \infty)$
-18-16-14-12-10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18 D) [-4, 12]
-18-16-14-12-10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16 18
285) 2y - 4 > -9
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
D) V <
$C = \begin{pmatrix} -10 & -8 & -6 & -4 & -2 & 0 & 2 & 4 & 6 & 8 & 10 \\ -\frac{5}{2'}, & \infty \end{pmatrix}$
$ \begin{array}{c} (1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 $
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
286) $ z + 8 \ge 0$

284) ____

285) ____

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
(++++++++++++++++++++++++++++++++++++	
(1 + E + + + + + + + + + + + + + + + + +	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
287) $ x \le 10$	287)
-20 -15 -10 -5 0 5 10 15 20 A) [-10, 10]	
<pre></pre>	
<pre>(++++++++++++++++++++++++++++++++++++</pre>	
$\{++++++++++++++++++++++++++++++++++++$	
(-15 -10 -5 0 5 10 15 20)	
288) g - 3 _{< 4}	288)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(++++++++++++++++++++++++++++++++++++	
(1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +	
(++++++++++++++++++++++++++++++++++++	
-20 -15 -10 -5 0 5 10 15 20	
289) $ 9x+1 < 4$	289)
$ \begin{array}{c} (1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +$	

$ \begin{array}{c} \hline & & \\ -10 & -8 & -6 & -4 & -2 & 0 & 2 & 4 & 6 & 8 & 10 \\ \end{array} \\ B) \left(-\infty, -\frac{5}{9} \right) \end{array} $	
$ \begin{array}{c} \underbrace{(++++++++)}_{-10} + + + + + + + + + + + + + + + + + + +$	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
290) $ 8 - x \le 18$	290)
<	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 A) $(-\infty, -10] \cup [26, \infty)$	
<	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 B) (-∞, -10]	
<pre></pre>	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 C) [-10, 26]	
<pre></pre>	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 D) (-∞, 26]	
<pre></pre>	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35	
291) $ h+9 \le 8$	291)
<	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 A) (-17, -1)	
<	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 B) [-17, 3]	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35	
<pre></pre>	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35	
د ۱٬۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰	
-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35	

292) | m + 5 | _{< 0}

A) ((5, -5)														
D)	< -35	-30	-25	 -20	-15	-10	יי <u></u> וּי	0	+•)++	10	15	20 20	25	 30	1111→ 35
В) ((5, ∞) < ++++	HHH		нн			нш	нн	(++		+++++	+++++		+++++)
C) (-35 Ø	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35
	< -35	-30	-25	-20	+++++ -15	-10	 -5	0	 5	+++++ 10	15	11111 20	25	11111 30	1111→ 35
D)	(-∞, -5))													
•	€1111	30	25	20	15	10	++) ∙+	HIH	H	10	HHH 16			HHH 20	HHH >

Solve the given equation or inequality. If an equation is given, then write the solution set in set notation. If an inequality is given, then write the solution set in interval notation.

293)	x + 3 = 15				293)
	A) {- 15, 15}	B) {12}	C) {- 15}	D) {- 12, 12}	
294)	$y + 3 _{-5} = 8$ A) {10}	B) {13, -13}	C) {12, 15}	D) {10, -16}	294)
295)	$h - 4 + 2 \le 7$ A) (-1,9)	B) [-1,9]	C) [-1,7]	D) Ø	295)
296)	$ \begin{array}{c c} 8k+4 &+7 < 12 \\ A) \left(-\frac{9}{8}, \frac{1}{8} \right) \\ C) & \emptyset \end{array} $		$ \begin{array}{c} B \\ B \\ -\infty, -\frac{9}{8} \\ D \\ -\infty, -\frac{9}{8} \\ U \\ \end{array} \right) \left(\begin{array}{c} -\infty, -\frac{9}{8} \\ 0 \\ \end{array} \right) \left(\begin{array}{c} \frac{1}{8}, \\ \infty \\ \end{array} \right) $		296)
297)	$4\mathbf{x} + 7\mathbf{I} + 5 < 3$ $A) \left(-\infty, -\frac{9}{4} \right)$ $C) \left(-\infty, -\frac{5}{4} \right)$		B) $\left[-\infty, -\frac{5}{4}\right] \cup \left[-\frac{9}{4}, \infty\right]$ D) \emptyset		297)
298)	3y - 3 - 8 > -13 A) $\left(-\frac{2}{3}, \frac{8}{3}\right)$	B) Ø	C) $\left(-\frac{2}{3},\infty\right)$	D) (-∞, ∞)	298)
299)	$\frac{1}{5}x + \frac{1}{5} \bigg _{+} \frac{1}{8} = \frac{5}{8}$ A) $\left\{\frac{3}{2}\right\}$		B) $\left\{0, \frac{3}{2}\right\}$		299)
	$C) \begin{bmatrix} 2 \\ -\infty \end{bmatrix}_{-\infty} \begin{bmatrix} \frac{7}{2} \\ -\frac{7}{2} \end{bmatrix} \begin{bmatrix} \frac{3}{2} \\ 0 \end{bmatrix} \begin{bmatrix} \frac{3}{2} \end{bmatrix} $		$D) \left\{ -\frac{7}{2'} \frac{3}{2} \right\}$		

300) $|0.2x - 1.1| + 0.2 \ge 0.7$

D) (3, 8)

Solve the equation. $301)\left|\frac{1}{2}n+2\right|\left|\frac{3}{4}n-2\right|$ 301) _____ A) {16, 12} B) {0} C) {16, 0} D)Ø 302) = 302) _____ A) $\left\{ \frac{3}{4} \right\}$ $B)\left\{-\frac{3}{4'}-\frac{7}{6}\right\}$ D) $\left\{ \frac{3}{4}, \frac{7}{6} \right\}$ C)Ø 303) = 303) _____ A) $\left\{-10, \frac{4}{3}\right\}$ B) $\left\{ 10, -\frac{4}{3} \right\}$ D) {10} C)Ø 304) | 8s - 7 | ₌ | s - 4 | 304) _____ A) $\left\{ \frac{3}{7}, \frac{11}{9} \right\}$ D) $\left\{ \frac{3}{7'} - \frac{10}{7} \right\}$ B) $\left\{-\frac{3}{7'}, -\frac{11}{7}\right\}$ C)Ø 305) | n - 2 | = | 7 - n |A) $\begin{cases} 9 \\ 2 \\ 2 \end{cases}$ 305) _____ C) $\left[\frac{5}{2} \right]$ D)Ø B) {9} 306) | n - 2 | ₌ | 2 - n | 306) _____ A) $\langle 0 \rangle$ D $\langle 2 \rangle$ B)Ø C) {4} 307) | 4s - 3 | ₌ | s + 1 | 307) _____ A) $\left\{-\frac{4}{3'}, -\frac{2}{5}\right\}$ C) $\left[\frac{4}{3}\right]$ D) $\left\{ \frac{4}{3'}, \frac{2}{5} \right\}$ B)Ø Solve the equation or inequality. 308) | b | = -2308) _____ A) $\left\{ \frac{1}{12} \right\}$ B) {-2} C)Ø D) {2} 309) | 7f + 2 | = -6309) A) $\left\{-\frac{6}{7'},-\frac{8}{7}\right\}$ B) $\left\{ \frac{4}{7'}, \frac{8}{7} \right\}$ C)Ø D) $\left\{ -\frac{8}{7} \right\}$ 310) |m-5| = 0310) _____ A) (-5,∞) B) (-∞, 5) C) {5} D) {-5, 5} 311) |-5x+6| > -5311) _____ A)Ø B) $\left(\frac{1}{5}, \frac{11}{5}\right)$ $D\left(-\infty,\frac{11}{5}\right)$ C) (-∞, ∞) 312) $|x+6| \le 0$ 312) _____ A) {6} D)Ø B) {-6} C) (-∞, -6) 313) $|z+4| \ge 0$ 313) _____

	A) (-∞, -4) ∪ (-4, ∞) C) (-∞, ∞)		B) [-4, 4] D) Ø		
3	(314) $ 6x - 5 - 3 < -9$ A) $\left(-\infty, -\frac{1}{6}\right)$	$B)\left[-\frac{1}{6},\frac{11}{6}\right]$	C) $\left(-\infty, \frac{11}{6}\right)$	D) Ø	314)
3	815) 5x - 1 - 6 > -8 A) (-∞, ∞)	$B)\left(-\frac{1}{5},\frac{3}{5}\right)$	C) Ø	D) $\left(-\frac{1}{5},\infty\right)$	315)
Provid	de an appropriate response.				
3	316) Determine which of the fo	llowing is used to solve th	ne equation $ ax + b = c$	for $c > 0$.	316)
	A) $ax + b = c$		B) $ax + b = -c$		
	C) $ax + b = c$ and $ax + b$	= -C	D) $ax + b = c \text{ or } ax + b =$	-C	
3	317) Determine which of the fo	llowing is used to solve th	he inequality $ ax + b < c$, for c > 0.	317)
	A) $-c < ax + b < c$	0	B) $ax + b < c$		
	C) $-c < ax + b > c$		D) $ax + b < c$ or $ax + b$	b < -c	
3	(318) Determine which of the fo	llowing is used to solve th	the inequality $ ax + b > c$, for $c > 0$.	318)
	A) $ax + b > c$ or $ax + b$	D > -C	D) $ax + b < c$ and $ax + b$	+ D < -C	
			D $dx + b < c$ and $dx + b$		
3	319) Give the number of solution	ons for $= k$ if $k < 0$.			319)
	A) 2		B) 0		
	C) 1		D) An infinite number		
3	320) Give the number of solution	ons for $> k$ if $k < 0$.			320)
	A) 0		B) An infinite number		,
	C) 2		D) 1		
2	321) Cive on equation of income	ality that states the distant	co botwoon $2x$ and $7 = 1$	as than 6	321)
	A) $2x - 7 < 6$	B) $ 2x + 7 > -6$	C) $ 2x - 7 > 6$	D) $ 2x - 7 < 6$	
		_,	-,		
Solve	the equation.				
3	$322) \ 4(2x+4) - 2(x-4) = 3x + 60$	$) + \chi$	\mathbf{C} (10)	D (0.4)	322)
	A) {42}	B) {26}	C) {18}	D) {34}	
3	$323) \ 0.8x - 0.4(40 + x) = 4$				323)
	A) {40}	B) {60}	C) {25}	D) {50}	
3	$324) \frac{x-6}{10} + \frac{x+4}{15} - \frac{x-2}{6}$				324)
	+ = A) {-10}	B) Ø	C) {5}	D) (-∞, ∞)	
	, , ,	,	, ()	/ 、 / /	
Solve	the equation. Then tell wheth 325) $2x - (6 - x) + 3x + 6 = 6x + 2$	er the equation is a cond	litional equation, an ider	ntity, or a contradiction	n. 325)

A) {14}; conditional equation	B) (- ∞ , ∞); identity
C) Ø; contradiction	D) {2}; conditional equation

326)	$\frac{x}{5} + 9 = \frac{11x}{30} + \frac{x}{6} + 13$ A) {0}; conditional equation C) Ø; contradiction	B) (-∞, ∞); identity D) {11}; conditional equation	326)
327)	 -3(3x + 2) = -16 - 8x + 9x A) {1}; conditional equation C) {-1}; conditional equation 	B) $(-\infty, \infty)$; identity D) Ø; contradiction	327)
Solve.			
328)	$ \begin{array}{c} -7y^2 + wy - x = 0 \text{ for } w \\ A) \underbrace{7y^2 + y}_{W = x} \qquad B) \underbrace{x - 7y^2}_{y} \end{array} $	C) $\frac{x + 7y^2}{y}$ D) $\frac{x + 7y^2}{y}$ W = -	328)
329)	$ \begin{array}{c} 3s + 5p = tp - 5 \text{ for } p \\ A) & \frac{3s + 5}{-t} & \frac{-3s - 5}{t} \\ p = & \text{ or } p = \\ C) & \frac{-3s - 5}{5 - t} & \frac{3s + 5}{t - 5} \\ p = & \text{ or } p = \\ \end{array} $	B) $p = \frac{3s+5}{5}$ or $p = \frac{-3s-5}{-5}$ D) $\frac{5-t}{-3s-5}$ or $p = \frac{t-5}{3s+5}$	329)
Solve the	e problem.		
330)	A plane climbs from an altitude of 11,000 ft	to a cruising altitude of 33,000 ft. The plane ascends	330)
	A) 0.1 min B) 60,500,000 m	nin C) 16 min D) 8 min	
331)) A certificate of deposit pays \$2493.75 in sim the rate of interest?	nple interest for 1 yr on a principal on \$37,500. What is	s 331)
	A) 7.65% B) 6.65%	C) 6.7% D) 6.6%	
332)	Allied Plumbing spent \$33,990 this year on what percent of total sales was spent on her percent, if necessary.	health insurance alone. If total sales were \$485,300, calth insuranc? Round to the nearest tenth of a	332)
	A) 143% B) 14.3%	C) 7% D) 0.7%	
333)) Walt made an extra \$10,000 last year from a and the rest at 9%. He made a total of \$970 i A) \$3000 at 9%; \$7000 at 10% C) \$7000 at 9%; \$3000 at 10%	a part-time job. He invested part of the money at 10% in interest. How much did he invest at each rate? B) \$3000 at 9%; \$8000 at 10% D) \$5000 at 9%; \$7000 at 10%	333)
334)) Jill is 9 kilometers away from Joe. Both begi walks at 2.5 km/hr. They meet in 2 hours. H	in to walk toward each other at the same time. Jill How fast is Joe walking?	334)
	A) 2.25 km/hr B) 7 km/hr	C) 4 km/hr D) 2 km/hr	
335)) Find the measure of each angle.		

x*

336) ____

337) _____

Solve the inequality. Give the solution set in both interval and graph forms.

336) 2 - 5(x + 2) \leq -8 - 2(x + 5) + 2x

 \rightarrow

338) 0 < 2 y + 2 ≤ 8

$$(-1, 3) = (-1,$$

338) ____

B) [-1, 3)

$$\begin{array}{c} -7 & -6 & -5 & -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \hline D) (-1, 3] \\ \hline \hline & -7 & -6 & -5 & -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 \end{array}$$

339) $\frac{4}{3} -13 \le \frac{4}{3} x - 1 \le 11$

339)										
	A) (-9, 9)									
	<		<u>+-}</u> +->							
	$B) (-\infty, -9] \cup [9, \infty)$									
	-10 -9 -8 -7 -6 -5 -4 -3	-2 -1 0 1 2 3 4 5 6 7	8 9 10							
	C) [9, ∞)									
	< 		+ E + -)							
	-10-9-8-7-6-5-4-3 D)[-9.9]	-2-101234567	8 9 10							
	-10 -9 -8 -7 -6 -5 -4 -3	-2 -1 0 1 2 3 4 5 6 7	8 9 10							
Solve the	problem.									
340)	Which one of the following	g inequalities is equivaler	t to b ≥ 2?		340)					
	A) -3 b ≤6	B) -3 b ≥6	C) -3 b ≥ -6	D) -3 b ≤ -6						
341)	Raymond plans on playing	g 5 rounds of golf while o	n vacation He wants hi	s average to be 90 or	341)					
541)	less. His scores for the fir	st 4 rounds were 88, 92, 9	91, and 89. What does he	e need to score on	541)					
	the last round to meet his	goal?								
	A) 80 or less	B) 86 or less	C) 90 or less	D) 90 or more						
Find the i	ndicated intersection or u	nion.								
342)	Let A = {2, 6, 14, 15, 23} and	d B = {6, 15, 23, 25}. Write	the set $A \cap B$.		342)					
	A) {2, 6, 15, 23}		B) {6, 15, 23, 25}							
	C) {6, 15, 23}		D) {2, 6, 14, 15, 23, 25}							
343)	Let A = {4, 7, 10, 17} and B	= {7, 17, 23, 29}. Write the	e set A ∪ B.		343)					
	A) {4, 7, 17, 23}		B) {4, 7, 10, 17, 23, 29}							
	C) {7, 17, 23}		D) {7, 17}							
Solve the	compound or absolute val	lue inequality.								
344)	$24 \le 9x - 3$ and $9x - 10 < 53$				344)					
	A) (3, 7]	B) [3, 7)	C) [3, 7]	D) (3, 7)						
345)	$-4x \le -12 \text{ or } 6x - 4 < 2x$				345)					
,	A) (-∞, 1) ∪ [3, ∞)	B) (1, 3)	C) Ø	D) [1, 3]	,					
346)	$ 7_{\mathbf{Y}} 2 < 4$				346)					
540)	$A) \begin{bmatrix} 2 \\ 2 \end{bmatrix} \begin{bmatrix} 6 \\ 0 \end{bmatrix}$		B) Ø		540)					
	$\left[\left[\left$,							
	C) $\left(-\infty, -\frac{2}{2}\right)$		D) $\left[-\frac{2}{6}, \frac{6}{6} \right]$							
	[7]									
347)	9 - 9x ≥ 5				347)					
017)	A) $\begin{bmatrix} -\pi & -\frac{14}{4} \end{bmatrix}$		B) <u>14</u>							
	[[∞] , [−] 9] _{U [5, ∞)}		[9,∞)							
	C) $\left[\frac{4}{2}, \frac{14}{2}\right]$		D) $\begin{bmatrix} -\infty & 4 \end{bmatrix} \begin{bmatrix} 14 & \infty \end{bmatrix}$							

348) $ y - 8 \le -13$ A) $(-\infty, \infty)$	B) [7, 20]	C) [5, 20]	D) Ø	348)
$\begin{array}{c} 349) \mid -7x - 1 \mid -5 < -3 \\ A) \left[-\infty, -\frac{3}{7} \right] \cup \left[\frac{1}{7} \\ C) \left[-\frac{3}{7}, \frac{1}{7} \right] \end{array}$	$\left[\frac{1}{2}, \infty\right]$	$ B) \left(-\infty, -\frac{3}{7} \right) $ $ D) \emptyset $		349)
Solve the absolute value equation 350 $ 7k + 4 - 2 = 5$ A) $(-\infty, \infty)$	ation. B) $\left\{ \frac{7}{3'} - \frac{7}{11} \right\}$	$C)\left\{-\frac{11}{7},\frac{3}{7}\right\}$	D) Ø	350)
351) $ 3s + 3 = -5 - s $ A) $\langle 1, -2 \rangle$	$B)\left\{1,-\frac{1}{2}\right\}$	C) {-1,2}	D) {1}	351)
Answer the question. 352) If $k < 0$, what is the solution set of $\begin{vmatrix} 5f - 3 \end{vmatrix} < k$ A) Ø B) {0}		C) (-∞, ∞)	$D\left(-\frac{k-3}{5},\frac{k-3}{5}\right)$	352)
$ \begin{array}{l} \text{353} \text{ If } k < 0, \text{ what is the} \\ \text{A} \text{ A} \text{ A} \left[-\frac{k-6}{5}, \frac{k-6}{5} \right] \end{array} $	solution set of $ 5f - 6 > k$ B) (- ∞ , ∞)	C) {0}	D) Ø	353)
354) If k < 0, what is the A) {0}	solution set of $ 6f - 8 = k$ B) Ø	C) $\left\{ \frac{k-8}{6} \right\}$	D) (-∞, ∞)	354)

1) A 2) B 3) A 4) B 5) A 6) B 7) B 8) A 9) A 10) A 11) A 12) B 13) B 14) A 15) D 16) C 17) B 18) D 19) C 20) B 21) D 22) D 23) A 24) C 25) B 26) B 27) A 28) D 29) D 30) A 31) B 32) C 33) C 34) D 35) A 36) A 37) A 38) A 39) B 40) C 41) C 42) C 43) C 44) A 45) A 46) A

47) The solution set is Ø.48) True. Each has the solution set {3}.

49) False. The equation is a contradiction, and thus the solution set is ϕ .

50) False. The equation is an identity, and thus the solution set is {all real numbers}.

51) Since the equation is an identity, the solution set is {all real numbers}.

52) C 53) B 54) C 55) D 56) C 57) D 58) A 59) C 60) D 61) D 62) A 63) A 64) D 65) C 66) C 67) B 68) C 69) A 70) A 71) C 72) D 73) C 74) B 75) A 76) D 77) B 78) B 79) C 80) C 81) A 82) C 83) D 84) A 85) No. The variable r should not appear on both sides of the equation in the solution. 86) No. The variable t should not appear on both sides of the equation in the solution. 87) B 88) A 89) Answers will vary, but the product of the three dimensions must be 36. 90) B 91) B 92) A 93) D 94) C 95) B 96) B 97) B 98) D 99) D 100) C 101) C 102) A 103) B

104) B 105) D 106) A 107) C 108) A 109) A 110) B 111) B 112) D 113) C 114) D 115) B 116) D 117) A 118) D 119) B 120) B 121) C 122) A 123) D 124) C 125) D 126) B 127) A 128) D 129) C 130) C 131) A 132) C 133) C 134) D 135) A 136) B 137) D 138) B 139) C 140) D 141) A 142) A 143) B 144) A 145) B 146) A 147) B 148) C 149) D 150) D 151) B 152) A 153) A 154) D 155) C

- 156) D
- 157) D
- 158) A
- 159) C
- 160) B
- 161) B
- 162) B
- 163) D
- 164) B
- 165) A
- 166) C
- 167) Answers will vary. An example would be: One number is twice another and their sum is 60. Find the larger number. To solve this problem, the equation would be x + 2x = 60. x = 20. The problem asks for the larger number, which is 2x = 2(20) = 40.
- 168) 90 r

169) A

- 170) Answers will vary. The student was not wrong. For example, if the problem asked to find the total amount, she may have intended to provide her final result in cents and not in dollars. Furthermore, if she had wanted to provide a final result in dollars, all she would need to do is divide the final result in cents by 100. As long as she was consistent in her use of denominations based on cents, her results would be valid.
- 171) No. Not enough information is given.
- 172) Yes. You would need to convert the rate to miles per minute or the time to hours before proceeding to solve for the distance in miles.
- 173) D
- 174) B
- 175) C
- 176) C
- 177) A
- 178) A
- 179) A
- 180) C
- 181) B
- 182) B
- 183) A
- 184) A
- 185) C
- 186) B
- 187) B
- 188) A
- 189) B
- 190) D 191) D
- 191) D 192) A
- 193) B
- 194) A
- 195) A
- 196) B
- 197) A
- 198) D 199) B
- 200) D
- 201) C

- 202) C
- 203) C
- 204) B
- 205) C
- 206) C
- 207) A
- 208) B
- 209) A
- 210) When multiplying or dividing by a negative number.
- 211) No, since you don't have to divide or multiply by a negative number. The fact that the number you are dividing into is negative is irrelevant. (Explanations will vary.)
- 212) Choice (a) is not.
- 213) No. The second statement only follows from the first if a and b are either both positive or both negative. Divide both sides of the original inequality by (ab). If a and b are of opposite signs, then (ab) < 0. When dividing by a

negative number, the inequality sign must be reversed (thus, $\frac{a}{ab} > \frac{b}{ab}$, and $\frac{1}{b} > \frac{1}{a}$). In addition, if a (or b) is zero, then its reciprocal is undefined. (Explanations will vary.)

- 214) Yes, since $b^2 > 0 > b$.
- 215) Yes. Adding a positive or negative number to both sides of an inequality produces an equivalent inequality. (Explanations will vary.)
- 216) No..Multiplying an inequality by a negative number requires reversing the inequality symbol. (Explanations will vary.)
- 217) No. It is only true that $a^2 \le b^2$ if $|a| \le |b|$. For example, it is true that $-5 \le -3$. However, it is not true that $(-5)^2 \le (-3)^2$ since 25 > 9. (Explanations will vary.)
- 218) C
- 219) D
- 220) B
- 221) B
- 222) D
- 223) A
- 224) D
- 225) A
- 226) C
- 227) C
- 228) B
- 229) A
- 230) B
- 231) C
- 232) A
- 233) D
- 234) D 235) B
- 236) B
- 237) C
- 238) A
- 239) C
- 240) A
- 241) A
- 242) A
- 243) A
- 244) D

245) A 246) A 247) B 248) C 249) D 250) D 251) A 252) B 253) C 254) A 255) C 256) C 257) C 258) D 259) C 260) C 261) A 262) B 263) B 264) A 265) B 266) A 267) A 268) B 269) A 270) D 271) C 272) A 273) C 274) C 275) B 276) A 277) A 278) A 279) C 280) B 281) D 282) B 283) A 284) C 285) A 286) D 287) A 288) A 289) A 290) C 291) D 292) C 293) D 294) D 295) B 296) A

297) D 298) D 299) D 300) C 301) C 302) D 303) B 304) A 305) A 306) D 307) D 308) C 309) C 310) C 311) C 312) B 313) C 314) D 315) A 316) D 317) A 318) C 319) B 320) B 321) D 322) C 323) D 324) D 325) C 326) B 327) A 328) C 329) C 330) D 331) B 332) C 333) A 334) D 335) C 336) B 337) A 338) D 339) D 340) D 341) C 342) C 343) B 344) B 345) A 346) D 347) D 348) D 349) C 350) C 351) A 352) A 353) B

354) B