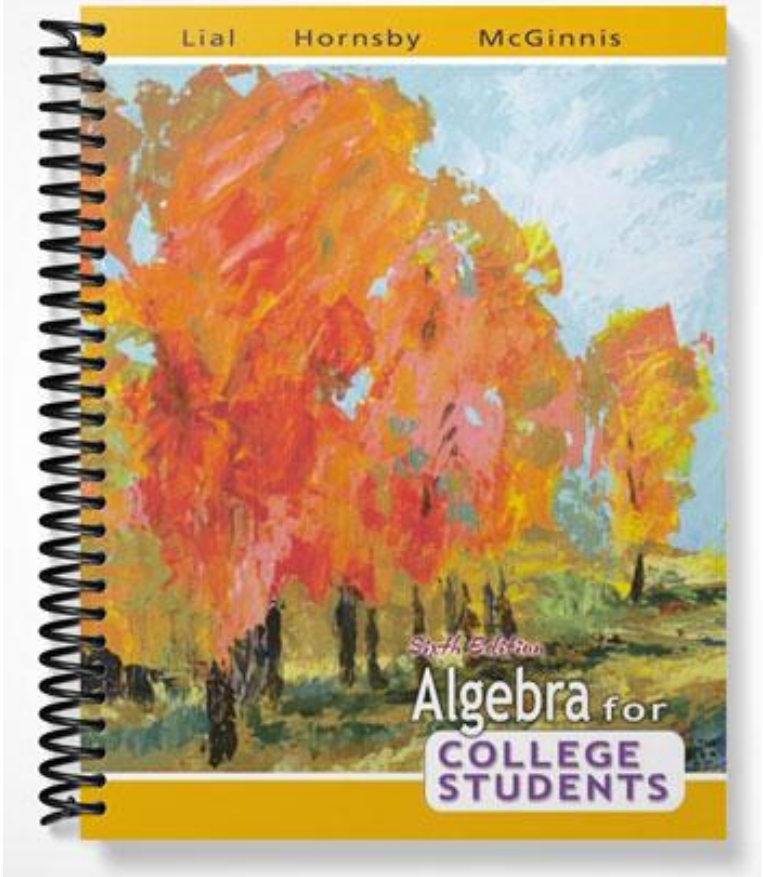
TEST BANK


Lial Hornsby McGinnis
Sixth Edition
Algebra for
COLLEGE STUDENTS

CHAPTER TWO, FORM A

ALGEBRA FOR COLLEGE STUDENTS

NAME_____ SECTION_____

For Exercises 1-3, solve the equation.

1. $-30+3c-7(2-3c)=4(c-5)+3c+27$ 1. _____

2. $0.7(y-14)-0.5y=32.2$ 2. _____

3. $\frac{x-3}{4}+\frac{x}{3}=\frac{19}{12}$ 3. _____

4. Decide whether the equation

$$10(4-x)+3=8(5-2x)-3$$

is *conditional*, an *identity*, or a *contradiction*. Give its solution set. 4. _____

_____

5. Solve for c: $c=\frac{4bc+5}{b-3}$ 5. _____

6. Solve for f: $4f-5=7h+fg$ 6. _____

For Exercises 7-12, solve the problem.

7. At the very first Indianapolis 500-mile race in 1911, Ray Harroun won in a time of 6.7 hours. What was his average speed in miles per hour, rounded to the nearest tenth? 7. _____

8. Dick Sauerman invested $3900 in a mutual fund one year ago. During the year, his fund increased in value by $339.30. What interest rate has Dick's investment earned? 8. _____

9. The sale price on a new pair of Aviator sunglasses is $255. This represents 15% off the regular price. What is the regular price? 9. _____

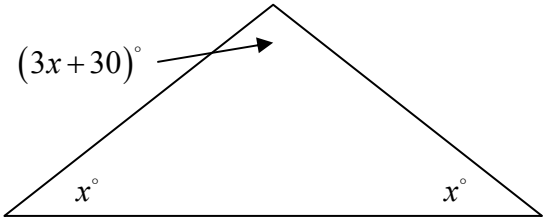
10. Two trains leave at the same time from cities that are 450 miles apart, traveling toward each other on adjacent tracks. One train is traveling 20 miles per hour slower than the other. They pass each other after 3 hours. Find the speed of each train.

10. _____

11. Gail Brown invested some money at 9% and \$100 more than that at 6%. Her total annual interest was \$96. How much did she invest at each rate?

11. _____

12. Find the measure of each angle.



12. _____

For Exercises 13-15, solve the inequality. Give the solution set in both interval and graph forms.

13. $20-3(2d+4)\geq -2d$

13. _____

14. $-7\leq \frac{2}{3}x-3\leq 9$

14. _____

15. $-\frac{4}{7}y\geq -28$

15. _____

16. Luke has test grades of 85, 87, and 77 on his first three algebra tests. If he wants an average of at least 84 after his fourth test, what are the possible scores he can make on his fourth test?

16. _____

17. A product will break even or produce a profit only if the revenue R (in dollars) from selling the product is at least the cost C (in dollars) of producing it. Suppose that the cost to produce x units of wallpaper is $C = 40x + 3000$, while the revenue is $R = 60x$. For what values of x is R at least equal to C? 17. _____

For Exercises 18-19, let $A = \{1, 4, 7, 8\}$ and $B = \{2, 4, 9, 13\}$.

18. Find $A \cup B$ 18. _____

19. Find $A \cap B$ 19. _____

For Exercises 20-23, solve the compound or absolute value inequality. Give the solution set in both interval and graph forms.

20. $4x + 3 > 11$ or $2 - 3x \geq 14$ 20. _____

21. $|2t - 7| \leq 7$ 21. _____

22. $-2y < -6$ or $3y - 1 < -10$ 22. _____

23. $|3 - 4x| > 2$ 23. _____

For Exercises 24-25, solve the absolute value equation.

24. $|3x + 4| = |2x - 9|$ 24. _____

25. $|8t - 7| + 6 = 15$ 25. _____

CHAPTER TWO, FORM B

ALGEBRA FOR COLLEGE STUDENTS

NAME_____ SECTION_____

For Exercises 1-3, solve the equation.

1. $-9z-(4-3z)=-(6-3z)-7$ 1. _____

2. $0.8(y-9)=13.8-0.2y$ 2. _____

3. $\frac{x-7}{4}+\frac{2x}{3}=-\frac{43}{12}$ 3. _____

4. Decide whether the equation

$$7-4(x+6)=3(8-x)-(x-17)$$

is *conditional*, an *identity*, or a *contradiction*. Give its solution set. 4. _____

_____

5. Solve for t: $r=\frac{t+7}{t}$ 5. _____

6. Solve for g: $4g-5=7h+fg$ 6. _____

For Exercises 7-12, solve the problem.

7. A.J. Foyt won his first of four Indianapolis 500-mile races in 1961, in a time of 3.59 hours. What was his average speed in miles per hour, rounded to the nearest tenth? 7. _____

8. The sale price on a new lawn mower is $232. This represents 20% off the regular price. What is the regular price? 8. _____

9. Joe Borowski invested $5700 in a mutual fund one year ago. During the year, his fund increased in value by $313.50. What interest rate has Joe's investment earned? 9. _____

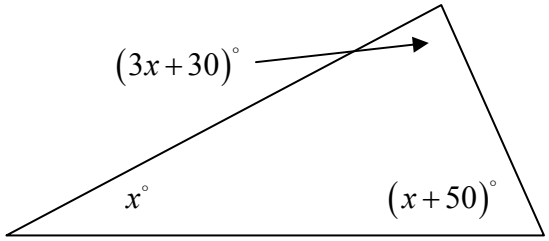
10. Two distance runners leave from the same point at the same time, traveling in opposite directions. One runs 2 miles per hour faster than the other. After 2 hours, they are 36 miles apart. Find the speed of each runner.

10. _____

11. Sherry Akey invested some money at 8% and $100 more than that at 6%. Her total annual interest was $48. How much did she invest at each rate?

11. _____

12. Find the measure of each angle.



12. _____

For Exercises 13-15, solve the inequality. Give the solution set in both interval and graph forms.

13. $14-3(t+2)\geq -t$

13. _____

14. $-5\leq \frac{2}{5}x+5\leq 15$

14. _____

15. $-\frac{2}{7}x\geq 14$

15. _____

16. Sam has test grades of 75, 77, and 69 on his first three algebra tests. If he wants an average of at least 80 after his fourth test, what are the possible scores he can make on his fourth test?

16. _____

17. A product will break even or produce a profit only if the revenue R (in dollars) from selling the product is at least the cost C (in dollars) of producing it. Suppose that the cost to produce x units of wallpaper is $C = 20x + 3600$, while the revenue is $R = 60x$. For what values of x is R at least equal to C? 17. _____

For Exercises 18-19, let $A = \{8, 9, 11, 13\}$ and $B = \{10, 12, 13, 15\}$**.**

18. Find $A \cup B$ 18. _____

19. Find $A \cap B$. 19. _____

For Exercises 20-23, solve the compound or absolute value inequality. Give the solution set in both interval and graph forms.

20. $4x - 3 < -11$ or $3x - 2 > -8$ 20. _____

21. $2x - 1 < 3$ and $3x \geq -9$ 21. _____

22. $|4t - 3| \geq 9$ 22. _____

23. $|2r + 3| < 15$ 22. _____

For Exercises 24-25, solve the absolute value equation.

24. $|2x + 7| = |6x - 5|$ 24. _____

25. $|5t + 7| + 8 = 17$ 25. _____

CHAPTER TWO, FORM C **ALGEBRA FOR COLLEGE STUDENTS**

NAME_____ SECTION_____

For Exercises 1-3, solve the equation.

1. $-9z-(4+3z)=-(2z-1)+25$ 1. _____

2. $52.4-0.6(y+9)=0.4y$ 2. _____

3. $\frac{2z+5}{5}=\frac{3z+1}{2}+\frac{7-z}{2}$ 3. _____

4. Decide whether the equation

$$4(x+6)=-5(x+1)+3(4-x)+(12x+17)$$

is *conditional*, an *identity*, or a *contradiction*. Give its solution set. 4. _____

5. Solve for y: $\frac{4+y}{5}=\frac{y}{z}$ 5. _____

6. Solve for k: $2k-3=-6h-fk$ 6. _____

For Exercises 7-12, solve the problem.

7. Mario Andretti won his only Indianapolis 500-mile race in 1969, in a time of 3.19 hours. What was his average speed in miles per hour, rounded to the nearest tenth? 7. _____

8. The sale price on a new motorcycle is $7125. This represents 25% off the regular price. What is the regular price? 8. _____

9. Mark Guthrie invested $7400 in a mutual fund one year ago. During the year, his fund increased in value by $703. What interest rate has Mark's investment earned? 9. _____

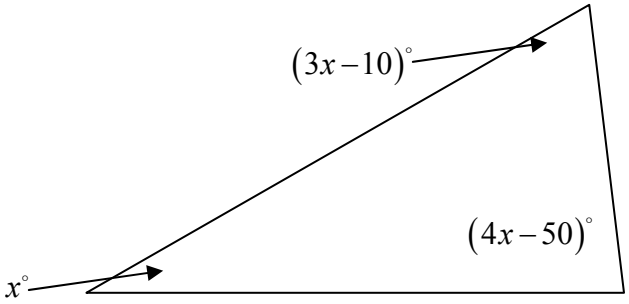
10. Two airplanes leave Chicago's Midway airport at the same time, traveling in opposite directions. One travels 25 miles per hour faster than the other. After 2 hours, they are 490 miles apart. Find the speed of each airplane.

10. _____

11. Bobbi Reutter invested some money at 7% and $100 less than that at 8%. Her total annual interest was $58. How much did she invest at each rate?

11. _____

12. Find the measure of each angle.



12. _____

For Exercises 13-15, solve the inequality. Give the solution set in both interval and graph forms.

13. $7-3(t-2)\le -(6t+1)$

13. _____

14. $-5\le \frac{2}{5}x+5\le 15$

14. _____

15. $-\frac{4}{3}x<-12$

15. _____

16. Alissa has test grades of 90, 87, and 79 on her first three algebra tests. If she wants an average of at least 80 after her fourth test, what are the possible scores she can make on the fourth test?

16. _____

17. A product will break even or produce a profit only if the revenue R (in dollars) from selling the product is at least the cost C (in dollars) of producing it. Suppose that the cost to produce x units of wallpaper is $C = 35x + 3000$, while the revenue is $R = 75x$. For what values of x is R at least equal to C? 17. _____

For Exercises 18-19, let $A = \{5, 6, 7, 8\}$ and $B = \{6, 8, 10, 12\}$**.**

18. Find $A \cap B$ 18. _____

19. Find $A \cup B$ 19. _____

For Exercises 20-23, solve the compound or absolute value inequality. Give the solution set in both interval and graph forms.

20. $3x + 5 < 8$ or $2x + 5 \geq 11$ 20. _____

21. $3x + 4 < 19$ and $-2x < 6$ 21. _____

22. $|4t - 11| \leq 9$ 22. _____

23. $|3x + 5| > 17$ 23. _____

For Exercises 24-25, solve the absolute value equation.

24. $|2x - 5| = |9x + 7|$ 24. _____

25. $|3t + 2| + 9 = 18$ 25. _____

CHAPTER TWO, FORM F

ALGEBRA FOR COLLEGE STUDENTS

NAME_____ SECTION_____

For Exercises 1-3, solve the equation.

1. $4-7(3-2r)+7=5(r-2)-9$

(a) -1 (b) -17 (c) $\frac{35}{11}$ (d) $\frac{9}{19}$ 1. _____

2. $0.04(g+6)-0.02g=3.16$

(a) 3.8 (b) 12.8 (c) 146 (d) 155 2. _____

3. $\frac{z+8}{6}=\frac{2z+12}{9}-\frac{4z}{9}$

(a) 1 (b) 0 (c) $\frac{4}{3}$ (d) $-\frac{48}{17}$ 3. _____

4. Decide whether the equation

$$6(2x-4)+3(5-x)-9=9(x-2)$$

is *conditional*, an *identity*, or a *contradiction*.

(a) Conditional (b) Identity (c) Contradiction 4. _____

5. Solve for b: $ab-5=\frac{b}{3}$

(a) $b=\frac{b+15}{3a}$ (b) $b=\frac{15}{3a-1}$

(c) $b=3ab-15$ (d) $b=15-3a+b$ 5. _____

6. Solve for k: $2k - 3 = -6h - fk$

(a) $k = \dfrac{-6h - 3}{f + 2}$ (b) $k = \dfrac{-6h - fk + 3}{2}$

(c) $k = \dfrac{2 + f}{3 - 6h}$ (d) $k = \dfrac{3 - 6h}{2 + f}$ 6. _____

For Exercises 7-12, solve the problem.

7. Arie Luyendyk won the Indianapolis 500-mile race in 1990, in a record time of 2.69 hours. What was his average speed in miles per hour, rounded to the nearest tenth?

(a) 156.7 mph (b) 185.9 mph (c) 173.6 mph (d) 167.9 mph 7. _____

8. The sale price on a diamond ring is $2136. This represents 11% off the regular price. What is the regular price?

(a) $234.96 (b) $1901.04 (c) $2400.00 (d) $19418.18 8. _____

9. Bruce Sutter invested $8300 in a mutual fund one year ago. During the year, his fund increased in value by $647.40. What interest rate has Bruce's investment earned?

(a) 7.2% (b) 7.8% (c) 12.8% (d) 13.8% 9. _____

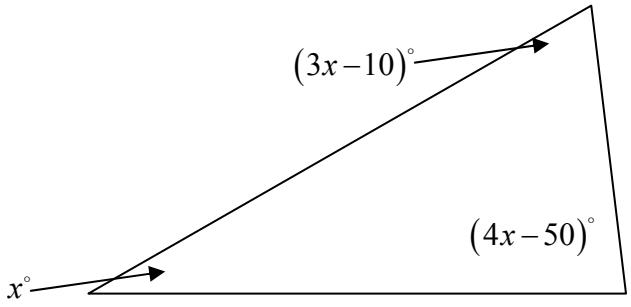
10. Two cars leave at the same time from towns that are 180 miles apart, traveling toward each other. One car travels 10 miles per hour faster than the other. They meet each other after two hours. Find the speed of the faster car.

(a) 40 mph (b) 50 mph (c) 60 mph (d) 75 mph 10. _____

11. Lynn Ogen invested some money at 9% and $100 less than that at 7%. Her total annual interest was $73. How much did she invest at 7%?

(a) $400.00 (b) $500.00 (c) $250.00 (d) $350.00 11. _____

12. Find the measure of each angle.



(a) $30^\circ, 70^\circ, 80^\circ$ (b) $25^\circ, 65^\circ, 90^\circ$
(c) $30^\circ, 50^\circ, 100^\circ$ (d) $40^\circ, 50^\circ, 90^\circ$ 12. _____

For Exercises 13-14, solve the inequality. Give the solution set in interval form.

13. $-\frac{3}{2}x > -6$

(a) $(-\infty, 9)$ (b) $(9, \infty)$
(c) $(-\infty, 4)$ (d) $(4, \infty)$ 13. _____

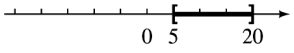
14. $12 - 2(t-3) \le -8t$

(a) $(-\infty, -3]$ (b) $[-3, \infty)$
(c) $\left(-\infty, \frac{5}{3}\right]$ (d) $(-\infty, 15]$ 14. _____

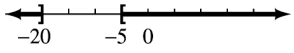
For Exercise 15, solve the inequality. Give the solution set in graph form.

15. $-2 \le \frac{2}{5}x + 6 \le 4$ 15. _____

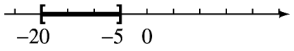
(a)



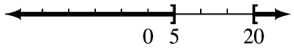
(b)



(c)



(d)



16. Luke has test grades of 85, 87, and 97 on his first three algebra tests. If he wants an average of at least 88 after his fourth test, what are the possible scores he can make on his fourth test?

(a) $x > 83$ (b) $x \geq 83$ (c) $x > 73$ (d) $x \geq 73$ 16. _____

17. A product will break even or produce a profit only if the revenue *R* (in dollars) from selling the product is at least the cost *C* (in dollars) of producing it. Suppose that the cost to produce *x* units of wallpaper is $C = 30x + 6000$, while the revenue is $R = 60x$. For what values of *x* is *R* at least equal to *C*?

(a) $x \geq 200$ (b) $x \geq 400$ (c) $x \geq 2000$ (d) $x \geq 8000$ 17. _____

For Exercises 18-19, Let $A = \{7, 9, 11, 13\}$ and $B = \{6, 11, 12, 13\}$.

18. Find $A \cup B$.

(a) $\{6, 7, 9, 12\}$ (b) $\{11, 13\}$
(c) $\{6, 7, 9, 11, 12, 13\}$ (d) $\varnothing$ 18. _____

19. Find $A \cap B$.

(a) $\{6, 7, 9, 12\}$ (b) $\{11, 13\}$
(c) $\{6, 7, 9, 11, 12, 13\}$ (d) $\varnothing$ 19. _____

For Exercises 20-21, solve the compound or absolute value inequality. Give the solution set in interval form.

20. $8x - 1 < 15$ or $3x - 5 > 7$

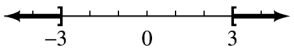
(a) $[2, 4]$ (b) $(-\infty, 2] \cup [4, \infty)$
(c) $(2, 4)$ (d) $(-\infty, 2) \cup (4, \infty)$ 20. _____

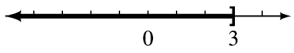
21. $|3t - 9| \leq 12$

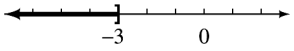
(a) $[-1, 7]$ (b) $(-\infty, -1] \cup [7, \infty)$
(c) $(-1, 7)$ (d) $(-\infty, -1) \cup (7, \infty)$ 21. _____

For Exercises 22-23, solve the compound or absolute value inequality. Give the solution set in graph form.

22. $3x+1\le -8$ or $3(x-1)\ge 6$ 22. _____

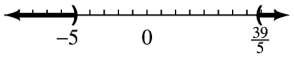
(a) 

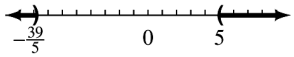
(b) 

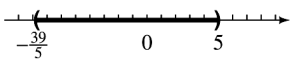
(c) 

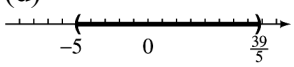
(d) No solution

23. $|5r+7|>32$ 23. _____

(a) 

(b) 

(c) 

(d) 

For Exercises 24-25, solve the absolute value equation.

24. $|x-5|=|7x-6|$

(a) $\left\{\frac{1}{6}\right\}$

(b) $\left\{\frac{1}{6}, \frac{11}{8}\right\}$

(c) $\left\{-\frac{1}{6}, -\frac{11}{8}\right\}$

(d) $\left\{-\frac{1}{6}\right\}$

24. _____

25. $|2t+5|+9=19$

(a) $\left\{\frac{5}{2}\right\}$

(b) $\left\{\frac{5}{2}, -\frac{15}{2}\right\}$

(c) $\left\{\frac{5}{2}, -\frac{33}{2}\right\}$

(d) $\varnothing$

25. _____

CHAPTER TWO, FORM D

ALGEBRA FOR COLLEGE STUDENTS

NAME_____ SECTION_____

For Exercises 1-3, solve the equation.

1. $4-7(3-2r)+7=5(r-2)-9$ 1. _____

2. $0.04(g+6)-0.02g=3.16$ 2. _____

3. $\frac{z+8}{6}=\frac{2z+12}{9}-\frac{4z}{9}$ 3. _____

4. Decide whether the equation

$$6(2x-4)+3(5-x)-9=9(x-2)$$

is *conditional*, an *identity*, or a *contradiction*. Give its solution set. 4. _____

_____

5. Solve for b: $ab-5=\frac{b}{3}$ 5. _____

6. Solve for f: $2f-3=9h-fg$ 6. _____

For Exercises 7-12, solve the problem.

7. Arie Luyendyk won the Indianapolis 500-mile race in 1990, in a record time of 2.69 hours. What was his average speed in miles per hour, rounded to the nearest tenth? 7. _____

8. The sale price on a diamond ring is $2136. This represents 11% off the regular price. What is the regular price? 8. _____

9. Bruce Sutter invested $8300 in a mutual fund one year ago. During the year, his fund increased in value by $647.40. What interest rate has Bruce's investment earned? 9. _____

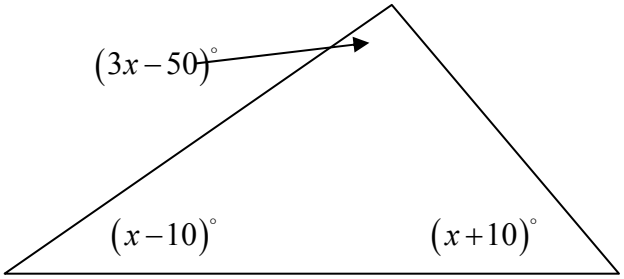
10. Two cars leave at the same time from towns that are 180 miles apart, traveling toward each other. One car travels 10 miles per hour faster than the other. They meet each other after two hours. Find the speed of each car.

10. _____

11. Rhonda Andjelich invested some money at 9% and $100 less than that at 7%. Her total annual interest was $81. How much did she invest at each rate?

11. _____

12. Find the measure of each angle.



12. _____

For Exercises 13-15, solve the inequality. Give the solution set in both interval and graph forms.

13. $12-2(t-3)\le -8t$

13. _____

14. $-8\le \frac{2}{7}x+6\le 4$

14. _____

15. $-\frac{3}{2}x>-6$

15. _____

16. Lauren has test grades of 75, 87, and 77 on her first three algebra tests. If she wants an average of at least 84 after her fourth test, what are the possible scores she can make on the fourth test?

16. _____

17. A product will break even or produce a profit only if the revenue R (in dollars) from selling the product is at least the cost C (in dollars) of producing it. Suppose that the cost to produce x units of wallpaper is $C = 50x + 6000$, while the revenue is $R = 80x$. For what values of x is R at least equal to C? 17. _____

For Exercises 18-19, let $A = \{7, 9, 11, 13\}$ and $B = \{6, 11, 12, 13\}$**.**

18. Find $A \cup B$ 18. _____

19. Find $A \cap B$ 19. _____

For Exercises 20-23, solve the compound or absolute value inequality. Give the solution set in both interval and graph forms.

20. $8x - 1 < 15$ or $3x - 5 > 7$ 20. _____

21. $3x + 1 \le 10$ or $3(x - 1) \ge 6$ 21. _____

22. $|3t - 9| \le 12$ 22. _____

23. $|5r + 7| > 32$ 23. _____

For Exercises 24-25, solve the absolute value equation.

24. $|x - 5| = |7x - 6|$ 24. _____

25. $|2t + 5| + 9 = 19$ 25. _____

CHAPTER TWO, FORM E

ALGEBRA FOR COLLEGE STUDENTS

NAME_____ SECTION_____

For Exercises 1-3, solve the equation.

1. $-9z-(4+3z)=-(2z-1)+25$

(a) -2 (b) -3 (c) $-\frac{7}{2}$ (d) $-\frac{14}{5}$ 1. _____

2. $52.4-0.6(y+9)=0.4y$

(a) -235 (b) -259.3 (c) 47 (d) 51.86 2. _____

3. $\frac{2z+5}{5}=\frac{3z+1}{2}+\frac{7-z}{2}$

(a) -5 (b) 4 (c) $-\frac{35}{3}$ (d) $-\frac{15}{8}$ 3. _____

4. Decide whether the equation

$$4(x+6)=-5(x+1)+3(4-x)+(12x+17)$$

is *conditional*, an *identity*, or a *contradiction*.

(a) Conditional (b) Identity (c) Contradiction 4. _____

5. Solve for y: $\frac{4+y}{5}=\frac{y}{z}$

(a) $y=5z-5$ (b) $y=\frac{4z}{5-z}$

(c) $y=\frac{5z}{y+4}$ (d) $y=z\left(\frac{4+y}{5}\right)$ 5. _____

6. Solve for f: $4f - 5 = 7h + fg$

(a) $f = \dfrac{7h+5}{4-g}$ (b) $f = 7h + g + 1$

(c) $f = \dfrac{7h+fg+5}{4}$ (d) $f = \dfrac{4-g}{7h+5}$ 6. _____

For Exercises 7-12, solve the problem.

7. Mario Andretti won his only Indianapolis 500-mile race in 1969, in a time of 3.19 hours. What was his average speed in miles per hour, rounded to the nearest tenth?

(a) 156.7 mph (b) 123.4 mph (c) 125.6 mph (d) 167.9 mph 7. _____

8. The sale price on a new motorcycle is $7125. This represents 25% off the regular price. What is the regular price?

(a) $1781.25 (b) $5343.75 (c) $9500.00 (d) $28500.00 8. _____

9. Lee Smith invested $7400 in a mutual fund one year ago. During the year, his fund increased in value by $703. What interest rate has Lee's investment earned?

(a) 8.7% (b) 9.5% (c) 10.5% (d) 11.5% 9. _____

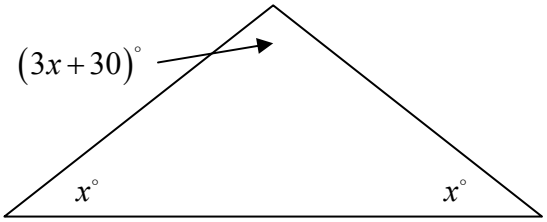
10. Two airplanes leave Chicago's Midway airport at the same time, traveling in opposite directions. One travels 25 miles per hour faster than the other. After 2 hours, they are 490 miles apart. Find the speed of the faster airplane.

(a) 110 mph (b) 135 mph (c) 160 mph (d) 185 mph 10. _____

11. Bobbi Reutter invested some money at 7% and $100 less than that at 8%. Her total annual interest was $58. How much did she invest at 7%?

(a) $440.00 (b) $340.00 (c) $333.33 (d) $233.33 11. _____

12. Find the measure of each angle.



(a) $40^\circ, 40^\circ, 100^\circ$ (b) $45^\circ, 45^\circ, 90^\circ$

(c) $25^\circ, 25^\circ, 130^\circ$ (d) $30^\circ, 30^\circ, 120^\circ$ 12. _____

For Exercises 13-14, solve the inequality. Give the solution set in interval form.

13. $-\frac{4}{3}x < -12$

(a) $(16, \infty)$ (b) $(-\infty, 16)$

(c) $(9, \infty)$ (d) $(-\infty, 9)$ 13. _____

14. $7-3(t-2) \le -(6t+1)$

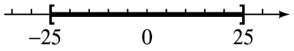
(a) $\left(-\infty, -\frac{14}{3}\right]$ (b) $(-\infty, -4]$

(c) $(-\infty, 0]$ (d) $[0, \infty)$ 14. _____

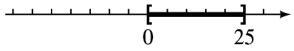
For Exercise 15, solve the inequality. Give the solution set in graph form.

15. $-5 \le \frac{2}{5}x + 5 \le 15$ 15. _____

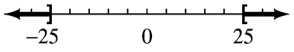
(a)



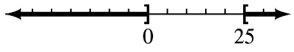
(b)



(c)



(d)



16. Luke has test grades of 85, 87, and 77 on his first three algebra tests. If he wants an average of at least 84 after his fourth test, what are the possible scores he can make on his fourth test?

(a) $x > 87$ (b) $x \geq 87$ (c) $x > 77$ (d) $x \geq 77$ 16. _____

17. A product will break even or produce a profit only if the revenue *R* (in dollars) from selling the product is at least the cost *C* (in dollars) of producing it. Suppose that the cost to produce *x* units of wallpaper is $C = 40x + 3000$, while the revenue is $R = 60x$. For what values of *x* is *R* at least equal to *C*?

(a) $x \geq 30$ (b) $x \geq 150$ (c) $x \geq 2000$ (d) $x \geq 4500$ 17. _____

For Exercises 18-19, Let $A = \{5, 6, 7, 8\}$ and $B = \{6, 8, 10, 12\}$.

18. Find $A \cap B$.

(a) $\{5, 7, 10, 12\}$ (b) $\{6, 8\}$
(c) $\{5, 6, 7, 8, 10, 12\}$ (d) $\varnothing$ 18. _____

19. Find $A \cup B$.

(a) $\{5, 7, 10, 12\}$ (b) $\{6, 8\}$
(c) $\{5, 6, 7, 8, 10, 12\}$ (d) $\varnothing$ 19. _____

For Exercises 20-21, solve the compound or absolute value inequality. Give the solution set in interval form.

20. $3x + 5 < 8$ or $2x + 5 \geq 11$

(a) $[1, 3)$ (b) $(-\infty, 1] \cup (3, \infty)$
(c) $(-\infty, 1) \cup [3, \infty)$ (d) $(1, 3]$ 20. _____

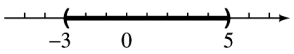
21. $|4t - 11| \leq 9$

(a) $\left[\frac{1}{2}, 5\right]$ (b) $(-\infty, 5]$ (c) $\left(-\infty, -\frac{1}{2}\right]$ (d) $[-5, 5]$ 21. _____

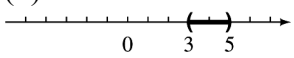
For Exercises 22-23, solve the compound or absolute value inequality. Give the solution set in graph form.

22. $3x+4<19$ and $-2x<6$ 22. _____

(a)

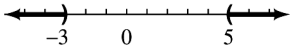


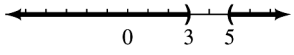
(b)



(c)

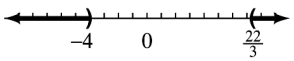
(d)



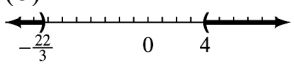


23. $|3x+5|>17$ 23. _____

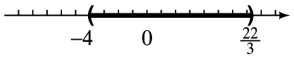
(a)



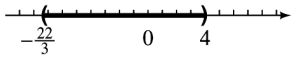
(b)



(c)



(d)



For Exercises 24-25, solve the absolute value equation.

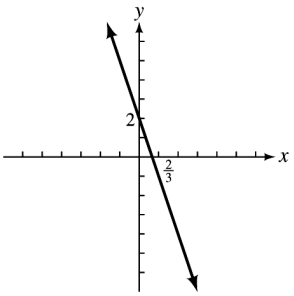
24. $|2x-5|=|9x+7|$

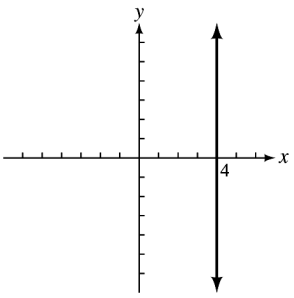
(a) $\left\{-\frac{12}{7},\frac{12}{11}\right\}$ (b) $\left\{-\frac{12}{7},-\frac{2}{11}\right\}$ (c) $\left\{\frac{2}{7},-\frac{12}{11}\right\}$ (d) $\varnothing$ 24. _____

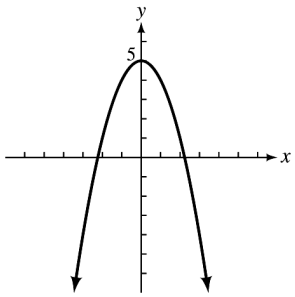
25. $|3t+2|+9=18$

(a) $\left\{\frac{7}{3}\ ,\ -\frac{11}{3}\right\}$ (b) $\left\{\frac{7}{3}\right\}$ (c) $\left\{-\frac{29}{3}\ ,\ \frac{25}{3}\right\}$ (d) $\varnothing$ 25. _____

Answers to Diagnostic Pretest, Form A

1. $-5, \frac{0}{-7}, \sqrt{16}, 8, 3$
2. -86
3. -23
4. -11
5. $-\frac{9}{2}$
6. $-\left|-12\right|$
7. $-4a$
8. $-20y+6$
9. $x=-4$
10. $y=-3$
11. $z>-2$
12. $-20a^3b^5+12a^2b^7$
13. $5y^3+3y^2-y$
14. $12y^2+y-6$
15. $9a^2-30ab+25b^2$
16. $x^2-2x-4-\frac{3}{x-5}$
17. $(5a+7b)(5a-7b)$
18. $(v-9)(v+7)$
19. $(4y+1)(y-4)$
20. $\frac{1}{a^{12}b^{20}}$
21. $\frac{8}{m^2}$
22. $\frac{3y^5(c+d)}{x^2(c-2d)}$
23. $\frac{3b+8a-7}{12ab}$
24. $y=-\frac{7}{2}, 3$
25. $x=-4, -3$
26. $(4, -2)$
27. $B=\frac{AD+4C}{4}$
28. $11z^5, -11z^5$
29. $3\sqrt{55}$
30. $-10\sqrt{3}$
31. $-\sqrt{3}$
32. length = 25 meters
33. 

34. 

35. 

Answers to Diagnostic Pretest, Form B

1. D
2. D
3. A
4. D
5. B
6. D
7. B
8. C
9. C
10. B
11. D
12. C
13. D
14. C
15. D
16. A
17. B
18. C
19. D
20. A
21. B
22. B
23. C
24. B
25. B
26. A
27. D
28. A
29. C
30. B
31. D
32. D
33. A
34. A
35. A