

**TEST BANK**

THIRD EDITION



**PREALGEBRA &  
INTRODUCTORY  
ALGEBRA**

LIAL  
HESTWOOD  
HORNSBY  
MCGINNIS

**MULTIPLE CHOICE.** Choose the one alternative that best completes the statement or answers the question.

**Identify the parts of each expression. Choose from these labels: variable, constant, and coefficient.**

- 1)  $t + 12$  1) \_\_\_\_\_  
A)  $t$  is a variable;  $12$  is a variable. B)  $t$  is a constant;  $12$  is a constant.  
C)  $t$  is a variable;  $12$  is a constant. D)  $t$  is a constant;  $12$  is a variable.  
Answer: C

- 2)  $5k$  2) \_\_\_\_\_  
A)  $5$  is a constant;  $k$  is a variable. B)  $5$  is a coefficient;  $k$  is a constant.  
C)  $5$  is a coefficient;  $k$  is a variable. D)  $5$  is a variable;  $k$  is a constant  
Answer: C

- 3)  $-4 + t$  3) \_\_\_\_\_  
A)  $-4$  is a constant;  $t$  is a constant. B)  $-4$  is a variable;  $t$  is a variable.  
C)  $-4$  is a constant;  $t$  is a variable. D)  $-4$  is a variable;  $t$  is a constant.  
Answer: C

- 4)  $\frac{c}{d}$  4) \_\_\_\_\_  
A)  $c$  is a constant;  $d$  is a constant. B)  $c$  is a variable;  $d$  is a variable.  
C)  $c$  is a constant;  $d$  is a variable. D)  $c$  is a variable;  $d$  is a constant.  
Answer: B

- 5)  $2h + 20$  5) \_\_\_\_\_  
A)  $2$  is a variable;  $h$  is a variable;  $20$  is a constant.  
B)  $2$  is a coefficient;  $h$  is a constant;  $20$  is a constant.  
C)  $2$  is a coefficient;  $h$  is a variable;  $20$  is a constant.  
D)  $2$  is a coefficient;  $h$  is a variable;  $20$  is a variable.  
Answer: C

- 6)  $-23g$  6) \_\_\_\_\_  
A)  $-23$  is a variable;  $g$  is a variable. B)  $-23$  is a coefficient;  $g$  is a constant.  
C)  $-23$  is a coefficient;  $g$  is a variable. D)  $-23$  is a variable;  $g$  is a constant.  
Answer: C

**Evaluate the expression.**

- 7) The expression (rule) for finding the total time for a commuting trip is  $d + 15$  where  $d$  is the normal driving time and  $15$  is the number of minutes added to allow for delays. Find the total commuting time when the normal driving time is  $52$  minutes. 7) \_\_\_\_\_  
A)  $104$  min B)  $52$  min C)  $37$  min D)  $67$  min  
Answer: D

- 8) The expression (rule) for finding the perimeter of a hexagon (6 sides) with sides of equal length is  $6s$ , where  $s$  is the length of one side. Evaluate the expression when the length of one side is  $10$  centimeters. 8) \_\_\_\_\_  
A)  $16$  cm B)  $60$  cm C)  $50$  cm D)  $70$  cm  
Answer: B

- 9) The expression (rule) for finding the gas mileage rate for a car or truck is  $m/g$ , where  $m$  is the number of miles travelled and  $g$  is the number of gallons of gas used. Evaluate the expression wh150 en miles

were 9)  
 travelled  
 and 6  
 gallons  
 of gas  
 were  
 used.

—  
 —  
 —  
 —

- A) 144 m/g                      B) 156 m/g                      C) 25 m/g                      D) 50 m/g  
 Answer: C

10) The expression (rule) for determining how many boxes of paper to order each week for an accounting office is  $2e + 5$ , where  $e$  is the number of employees. Evaluate the expression for 5 employees.

10) \_\_\_\_\_

- A) 16 boxes                      B) 5 boxes                      C) 10 boxes                      D) 15 boxes  
 Answer: D

**Evaluate the expression to determine the entry missing from the table.**

11) 

Value of x	Expression
-7	$5x$ $5 \cdot -7$ is -35
2	

11) \_\_\_\_\_

- A)  $5 + 2$  is 10                      B)  $5 + 2$  is 7                      C)  $5 \cdot 2$  is 10                      D)  $5 \cdot 2$  is 8  
 Answer: C

12) 

Value of x	Expression
-6	$3x + x$ $3 \cdot -6 + -6$ is -24
4	

12) \_\_\_\_\_

- A)  $3 \cdot 4 + 4$  is 20                      B)  $3 \cdot 4 + 4$  is 16                      C)  $3 \cdot 4 \cdot 4$  is 16                      D)  $3 \cdot 4$  is 16  
 Answer: B

13) 

Value of x	Value of y	Expression
7	9	$2xy$ $2 \cdot 7 \cdot 9$ is 126
-1	5	

13) \_\_\_\_\_

- A)  $2 \cdot -1 \cdot -1$  is -10                      B)  $3 \cdot -1 \cdot 5$  is -15                      C)  $3 \cdot -1 \cdot 5$  is -10                      D)  $2 \cdot -1 \cdot 5$  is -10  
 Answer: D

14) 

Value of x	Value of y	Expression
6	7	$-3xy$ $-3 \cdot 6 \cdot 7$ is -126
5	-2	

14) \_\_\_\_\_

- A)  $-3 \cdot -2 \cdot -2$  is 30                      B)  $-3 \cdot 5 \cdot -2$  is -30                      C)  $-3 \cdot 5 \cdot -2$  is 30                      D)  $-3 \cdot 5 \cdot 5$  is 30  
 Answer: C

15)

Value of x	Value of y	Expression $-2x + y$
6	7	$-2 \cdot 6 + 7$ is $-5$
1	-3	

A)  $-2 \cdot -3 - 3$  is 3

B)  $-2 \cdot 1 - 3$  is  $-5$

C)  $-2 \cdot -3 + 1$  is 7

D)  $-2 \cdot 1 + 1$  is  $-1$

Answer: B

Rewrite the given expression without exponents.

16)  $t^4$

A)  $t + 4$

B)  $\frac{t}{4}$

C)  $t + t + t + t$

D)  $t \cdot t \cdot t \cdot t$

Answer: D

17)  $g^6$

A)  $\frac{g}{6}$

B)  $g + g + g + g + g + g$

C)  $g + 6$

D)  $g \cdot g \cdot g \cdot g \cdot g \cdot g$

Answer: D

18)  $w^5z^3$

A)  $w \cdot w \cdot w \cdot w \cdot w \cdot z \cdot z \cdot z$

B)  $w + w + w + w + w + z + z + z$

C)  $w + w + w + z + z + z + z + z$

D)  $w \cdot w \cdot w \cdot z \cdot z \cdot z \cdot z \cdot z$

Answer: A

19)  $-x^2y^4$

A)  $-1 \cdot x + x + x + x + y + y$

B)  $-1 \cdot x + x + y + y + y + y$

C)  $-1 \cdot x \cdot x \cdot y \cdot y \cdot y \cdot y$

D)  $-1 \cdot x \cdot x \cdot x \cdot x \cdot y \cdot y$

Answer: C

20)  $-2r^3y^2$

A)  $-2 \cdot r + r + y + y + y$

B)  $-2 \cdot r \cdot r \cdot r \cdot y \cdot y$

C)  $-2 \cdot r \cdot r \cdot y \cdot y \cdot y$

D)  $-2 \cdot r + r + r + y + y$

Answer: B

21)  $13d^3k^4$

A)  $13 \cdot d + d + d + k + k + k + k$

B)  $13 \cdot d \cdot d \cdot d \cdot k \cdot k \cdot k \cdot k$

C)  $13 \cdot d \cdot d \cdot d \cdot d \cdot k \cdot k \cdot k$

D)  $13 \cdot d + d + d + d + k + k + k$

Answer: B

22)  $12h^4m^2$

A)  $12 \cdot h \cdot h \cdot h \cdot h \cdot m \cdot m$

B)  $12 \cdot h \cdot h \cdot m \cdot m \cdot m \cdot m$

C)  $12 \cdot h + h + m + m + m + m$

D)  $12 \cdot h + h + h + h + m + m$

Answer: A

23)  $-23f^3g^5$

A)  $-23 \cdot f + f + f + g + g + g + g + g$

B)  $-23 \cdot f \cdot f \cdot f \cdot f \cdot f \cdot g \cdot g \cdot g$

C)  $-23 \cdot f + f + f + f + f + g + g + g$

D)  $-23 \cdot f \cdot f \cdot f \cdot g \cdot g \cdot g \cdot g \cdot g$

Answer: D

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—

16) \_\_\_\_\_

17) \_\_\_\_\_

18) \_\_\_\_\_

19) \_\_\_\_\_

20) \_\_\_\_\_

21) \_\_\_\_\_

22) \_\_\_\_\_

23) \_\_\_\_\_

- 24)  $f^3g^4h^2$  24) \_\_\_\_\_  
 A)  $f^{-1} \cdot f \cdot f \cdot f \cdot f \cdot g \cdot g \cdot h \cdot h \cdot h$   
 B)  $f^{-1} \cdot f + f + f + f + g + g + h + h + h$   
 C)  $f^{-1} \cdot f + f + f + g + g + g + g + h + h$   
 D)  $f^{-1} \cdot f \cdot f \cdot f \cdot g \cdot g \cdot g \cdot g \cdot h \cdot h$   
 Answer: D

- 25)  $x^2y^3z^2$  25) \_\_\_\_\_  
 A)  $x \cdot x \cdot y \cdot y \cdot y \cdot z \cdot z$   
 B)  $x + x + x + y + y + y + z + z$   
 C)  $x + x + y + y + y + z + z$   
 D)  $x \cdot x \cdot x \cdot y \cdot y \cdot z \cdot z$   
 Answer: A

**Evaluate the given expression.**

- 26)  $x^3$  when  $x$  is  $-2$ . 26) \_\_\_\_\_  
 A)  $-6$  B)  $-8$  C)  $-4$  D)  $4$   
 Answer: B

- 27)  $cx^3$  when  $c$  is  $1$  and  $x$  is  $-4$ . 27) \_\_\_\_\_  
 A)  $-63$  B)  $-12$  C)  $-64$  D)  $16$   
 Answer: C

- 28)  $5mn$  when  $m$  is  $-5$  and  $n$  is  $-5$ . 28) \_\_\_\_\_  
 A)  $-5$  B)  $100$  C)  $125$  D)  $-125$   
 Answer: C

- 29)  $-5v^2t$  when  $v$  is  $1$  and  $t$  is  $3$ . 29) \_\_\_\_\_  
 A)  $15$  B)  $-45$  C)  $45$  D)  $-15$   
 Answer: D

- 30)  $-v^2tw^3$  when  $v$  is  $-3$ ,  $t$  is  $2$ , and  $w$  is  $-3$ . 30) \_\_\_\_\_  
 A)  $486$  B)  $-486$  C)  $-324$  D)  $324$   
 Answer: A

- 31)  $2x^2yz$  when  $x$  is  $5$ ,  $y$  is  $-3$ , and  $z$  is  $-5$ . 31) \_\_\_\_\_  
 A)  $750$  B)  $-375$  C)  $-750$  D)  $375$   
 Answer: A

**Evaluate the expression.**

- 32)  $|xy| + |yz|$ ; when  $x$  is  $-5$ ,  $y$  is  $5$ , and  $z$  is  $-4$ . 32) \_\_\_\_\_  
 A)  $45$  B)  $-50$  C)  $50$  D)  $-45$   
 Answer: A

- 33)  $|xy| + |yz| - |z^2|$ ; when  $x$  is  $5$ ,  $y$  is  $-4$ , and  $z$  is  $-1$ . 33) \_\_\_\_\_  
 A)  $23$  B)  $-41$  C)  $-25$  D)  $41$   
 Answer: A

- 34)  $\frac{z^2}{-2y+z}$ ; when  $y$  is  $2$  and  $z$  is  $4$ . 34) \_\_\_\_\_  
 A)  $16$  B) undefined C)  $0$  D)  $-1$

Answer: B

35)  $\frac{y^2}{x+2y}$ ; when  $x$  is  $-3$  and  $y$  is  $3$ .  
A) undefined      B) 0

C) 3      D) -3

Answer: C

35) \_\_\_\_\_

Identify the like terms in the given expression. Then identify the coefficients of the like terms.

36)  $9t^2 + 10t + ^{-2}rt + 2t^2$   
A) Like Terms:  $9$  and  $2$   
Coefficients:  $9t^2$  and  $2t^2$   
C) Like Terms:  $9t^2$  and  $2t^2$   
Coefficients:  $9$  and  $2$

B) Like Terms:  $9t^2$  and  $10t$   
Coefficients:  $9$  and  $10$   
D) Like Terms:  $10t$  and  $^{-2}rt$   
Coefficients:  $10$  and  $2$

Answer: C

36) \_\_\_\_\_

37)  $8x^2y + 10xy + ^{-8}xy^2 + 12x + 4xy + ^{-4}x^2y^3 + 12$   
A) Like Terms:  $4xy$  and  $12x$   
Coefficients:  $4$  and  $12$   
C) Like Terms:  $10xy$  and  $4xy$   
Coefficients:  $10$  and  $4$

B) Like Terms:  $10$  and  $4$   
Coefficients:  $10xy$  and  $4xy$   
D) Like Terms:  $8x^2y$  and  $^{-8}xy^2$   
Coefficients:  $8$  and  $^{-8}$

Answer: C

37) \_\_\_\_\_

38)  $2k + 10n + ^{-6}k + ^{-8}kn + 12$   
A) Like Terms:  $^{-6}k$  and  $^{-8}kn$   
Coefficients:  $6$  and  $8$   
C) Like Terms:  $2k$  and  $^{-6}k$   
Coefficients:  $2$  and  $^{-6}$

B) Like Terms:  $10n$  and  $^{-8}kn$   
Coefficients:  $10$  and  $12$   
D) Like Terms:  $2$  and  $^{-6}$   
Coefficients:  $2k$  and  $^{-6}k$

Answer: C

38) \_\_\_\_\_

Simplify the given expression.

39)  $14t + 8t$   
A)  $22t^2$       B)  $6t$

C)  $22t$       D)  $^{-22}t$

Answer: C

39) \_\_\_\_\_

40)  $17mn - 17mn$   
A)  $34mn$       B)  $0$

C)  $^{-}mn$       D)  $mn$

Answer: B

40) \_\_\_\_\_

41)  $18y^2 + 3y^2$   
A)  $21y^4$       B)  $21y$

C)  $21y^2$       D)  $^{-21}y^2$

Answer: C

41) \_\_\_\_\_

42)  $25wy^3z - 5wy^3z$   
A)  $20w^2y^6z^2$       B)  $^{-20}wy^3z$

C)  $30wy^3z$       D)  $20wy^3z$

Answer: D

42) \_\_\_\_\_

43)  $3hk + 2hk + 5hk$   
A)  $^{-10}$

43) \_\_\_\_\_

$$h^2k^2 \quad \text{B) } -10hk \quad \text{C) } 10hk \quad \text{D) } 10h^2k^2$$

Answer: C

$$44) 7ef + 8ef - 30ef \quad \text{A) } -15e^2f^2 \quad \text{B) } 15ef \quad \text{C) } 15e^2f^2 \quad \text{D) } -15ef \quad 44) \underline{\hspace{2cm}}$$

Answer: D

$$45) -4z - 6z - 2z \quad \text{A) } -12z \quad \text{B) } -12z^2 \quad \text{C) } 12z^2 \quad \text{D) } 12z \quad 45) \underline{\hspace{2cm}}$$

Answer: A

**Simplify the given expression. Write the answer with variables in alphabetical order and any constant term last.**

$$46) 12s + 7t + 13s \quad \text{A) } 25s^2 + 7t \quad \text{B) } 19t + 13s \quad \text{C) } 25s + 7t \quad \text{D) } -25s + 7t \quad 46) \underline{\hspace{2cm}}$$

Answer: C

$$47) 13 + 6t + 10 \quad \text{A) } 6t + 130 \quad \text{B) } 6t - 23 \quad \text{C) } 6t^2 + 23 \quad \text{D) } 6t + 23 \quad 47) \underline{\hspace{2cm}}$$

Answer: D

$$48) 10xy^2 + 13xy + 11xy^2 \quad \text{A) } 21x^2y + 13xy \quad \text{B) } 23xy^2 + 11xy \quad \text{C) } 21x^2y^4 + 13xy \quad \text{D) } 21xy^2 + 13xy \quad 48) \underline{\hspace{2cm}}$$

Answer: D

$$49) -14y^2z + 12xy^2 - 9y^2z + 15 \quad \text{A) } 12xy^2 - 23y^2z + 15 \quad \text{B) } -12xy^2 + 23y^2z + 15 \quad \text{C) } 12xy^2 + 23y^2z + 15 \quad \text{D) } -12xy^2 - 23y^2z + 15 \quad 49) \underline{\hspace{2cm}}$$

Answer: A

$$50) 8m^2 + 7m - 16m^2 + 14m \quad \text{A) } -8m^2 + 21m \quad \text{B) } 8m^2 + 21m \quad \text{C) } 8m^2 - 21m \quad \text{D) } -8m^2 - 21m \quad 50) \underline{\hspace{2cm}}$$

Answer: A

$$51) -13y^3 + 13y - 9y^2 + 6 \quad \text{A) } 22y^2 - 13y + 6 \quad \text{B) } -22y^3 + 13y + 6 \quad \text{C) } -22y^2 + 13y + 6 \quad \text{D) } \text{cannot be simplified} \quad 51) \underline{\hspace{2cm}}$$

Answer: D

$$52) -8b + 5a - 3c - 3b - 8a \quad \text{A) } -3a - 11b \quad \text{B) } 13a - 11b - 3c \quad \text{C) } -3a - 11b - 3c \quad \text{D) } \text{cannot be simplified} \quad 52) \underline{\hspace{2cm}}$$

Answer: C

**Simplify by using the associative property of multiplication.**

53)  $2(4t)$  A)  $6t$  B)  $-6t$  C)  $8t$  D)  $-8t$  53) \_\_\_\_\_

Answer: C

54)  $-9(8z^3)$  A)  $-17z^3$  B)  $-72z^3$  C)  $17z^3$  D)  $72z^3$  54) \_\_\_\_\_

Answer: B

55)  $10(-9p^2)$  A)  $90p^2$  B)  $-19p^2$  C)  $-90p^2$  D)  $19p^2$  55) \_\_\_\_\_

Answer: C

56)  $-10(-5fg^2)$  A)  $50fg^2$  B)  $50f^2g^4$  C)  $-50f^2g^4$  D)  $-50fg^2$  56) \_\_\_\_\_

Answer: A

57)  $9(3fg^2h)$  A)  $27fg^2h$  B)  $27f^2g^4h^2$  C)  $-27f^2g^4h^2$  D)  $-27fg^2h$  57) \_\_\_\_\_

Answer: A

58)  $-2(-d)$  A)  $-2d$  B)  $3d$  C)  $2d$  D)  $-3d$  58) \_\_\_\_\_

Answer: C

**Use the distributive property to simplify this expression.**

59)  $6(t + 7)$  A)  $6t - 7$  B)  $6t + 7$  C)  $6t - 42$  D)  $6t + 42$  59) \_\_\_\_\_

Answer: D

60)  $9(z - 2)$  A)  $9z - 2$  B)  $9z + 18$  C)  $9z - 18$  D)  $9z + 2$  60) \_\_\_\_\_

Answer: C

61)  $-5(5k - 4)$  A)  $25k - 20$  B)  $-25k + 20$  C)  $25k + 20$  D)  $-25k - 20$  61) \_\_\_\_\_

Answer: B

62)  $-3(d + 4)$  A)  $-3d - 12$  B)  $-3d + 12$  C)  $-3d + 4$  D)  $-3d - 4$  62) \_\_\_\_\_

Answer: A

**Simplify the given expression.**

63)  $-5(y + 2) + 10y$  A)  $-5y + 10$  B)  $-5y - 10$  C)  $5y + 10$  D)  $5y - 10$  63) \_\_\_\_\_

Answer: D

64)  $4(w - 6) + 4$  A)  $4w - 28$  B)  $4w - 20$  C)  $4w + 20$  D)  $4w + 28$  64) \_\_\_\_\_



Answer: B

65)  $6 + 3(9t + 4)$  \_\_\_\_\_  
A)  $6t + 10$                       B)  $27t + 18$                       C)  $3t + 10$                       D)  $3t + 18$

Answer: B

66)  $4 + 2(5w + 5) - w$  \_\_\_\_\_  
A)  $9w + 9$                       B)  $11w - 14$                       C)  $9w + 14$                       D)  $11w + 14$

Answer: C

67)  $3 - 3(5w - 2) + w$  \_\_\_\_\_  
A)  $14w + 9$                       B)  $14w - 9$                       C)  $-14w + 9$                       D)  $-14w - 9$

Answer: C

68)  $-2 + 2(-2w + 8) + 5(8w - 1)$  \_\_\_\_\_  
A)  $36w + 9$                       B)  $36w - 9$                       C)  $-36w - 9$                       D)  $-36w + 9$

Answer: A

69)  $-3(-2z) - 7 + 6(2z + 9)$  \_\_\_\_\_  
A)  $6z + 47$                       B)  $18z + 2$                       C)  $18z + 47$                       D)  $18z - 47$

Answer: C

70)  $-6(-4n) + 8(n - 2) + 4(-2n) + 16 + n$  \_\_\_\_\_  
A)  $-25n$                       B)  $24n + 1$                       C)  $24n$                       D)  $25n$

Answer: D

Select the solution of the given equation from the answer choices provided.

71)  $y + 4 = 21$  \_\_\_\_\_  
A) 17                      B) -25                      C) 25                      D) -17

Answer: A

72)  $y + 8 = -12$  \_\_\_\_\_  
A) 4                      B) -20                      C) 20                      D) -4

Answer: B

73)  $z + 2 = 0$  \_\_\_\_\_  
A) -2                      B) 4                      C) 2                      D) 0

Answer: A

Solve the given equation.

74)  $w + 8 = 21$  \_\_\_\_\_  
A)  $w = 29$                       B)  $w = -29$                       C)  $w = -13$                       D)  $w = 13$

Answer: D

75)  $15 = e - 6$  \_\_\_\_\_  
A)  $e = -9$                       B)  $e = 21$                       C)  $e = 9$                       D)  $e = -21$

Answer: B

76)  $-7 = z + 2$  \_\_\_\_\_  
A)  $z = -9$                       B)  $z = 5$                       C)  $z = 9$                       D)  $z = -5$

Answer: A

77)  $-7 + h = 13$

A)  $h = 6$

B)  $h = -20$

C)  $h = -6$

D)  $h = 20$

77) \_\_\_\_\_

Answer: D

78)  $y - 8 = 0$

A)  $y = 0$

B)  $y = 16$

C)  $y = 8$

D)  $y = -8$

78) \_\_\_\_\_

Answer: C

79)  $m - 4 = -23$

A)  $m = 19$

B)  $m = -19$

C)  $m = 27$

D)  $m = -27$

79) \_\_\_\_\_

Answer: B

**Determine whether the equation balances when the proposed solution is tested.**

80)  $w - 5 = 7$

Solution is 12

A) Balances

B) Does not balance

Answer: A

80) \_\_\_\_\_

81)  $3 + s = 5$

Solution is 8

A) Does not balance

B) Balances

Answer: A

81) \_\_\_\_\_

82)  $-5 = -14 + w$

Solution is 9

A) Does not balance

B) Balances

Answer: B

82) \_\_\_\_\_

**Simplify each side of the equation, if possible. Then solve the equation.**

83)  $p - 15 = -2 + 8$

A)  $p = -25$

B)  $p = 25$

C)  $p = 21$

D)  $p = -21$

Answer: C

83) \_\_\_\_\_

84)  $8 + n = -2 - 7$

A)  $n = -1$

B)  $n = 17$

C)  $n = 1$

D)  $n = -17$

Answer: D

84) \_\_\_\_\_

85)  $14r - 13r = -2 + 6$

A)  $r = -8$

B)  $r = 8$

C)  $r = -4$

D)  $r = 4$

Answer: D

85) \_\_\_\_\_

86)  $-11w - 7 + 12w = -1 + 11$

A)  $w = -19$

B)  $w = 19$

C)  $w = 17$

D)  $w = -17$

Answer: C

86) \_\_\_\_\_

87)  $-15 + 15 = 13 + r$

A)  $r = -26$

B)  $r = 26$

C)  $r = -13$

D)  $r = 13$

Answer: C

87) \_\_\_\_\_

88)  $^{-1}2k + 13k = 23 - 2 + 2$  88) \_\_\_\_\_  
 A)  $k = 23$  B)  $k = -27$  C)  $k = -23$  D)  $k = 27$   
 Answer: A

89)  $^{-8} - 1 + 13 = 7y - 12 - 6y + 1$  89) \_\_\_\_\_  
 A)  $y = -1$  B)  $y = 15$  C)  $y = 8$  D)  $y = -15$   
 Answer: B

90)  $^{-4} - 5 + 10 = 6m - 10 - 5m + 5$  90) \_\_\_\_\_  
 A)  $m = 7$  B)  $m = 6$  C)  $m = -1$  D)  $m = -6$   
 Answer: B

91)  $^{-20} - 4 - 5 + 13 = -11 - 4n + 6 + 5n$  91) \_\_\_\_\_  
 A)  $n = -33$  B)  $n = 11$  C)  $n = -21$  D)  $n = -11$   
 Answer: D

92)  $^{-6}x + 3x + 9 + 4x = |1 - 5| - |-5 + 3|$  92) \_\_\_\_\_  
 A)  $x = -7$  B)  $x = 2$  C)  $x = 15$  D)  $x = -3$   
 Answer: A

**Solve the problem.**

93) The BBQ committee always orders one pound of ribs for each person who signs up for the Homecoming BBQ, plus 17 extra pounds of ribs. The committee ordered 120 pounds of ribs this year. Solving the equation  $n + 17 = 120$  will give the number of people who signed up for the BBQ. Solve the equation. 93) \_\_\_\_\_  
 A)  $n = 137$  people B)  $n = 17$  people C)  $n = 103$  people D)  $n = 120$  people  
 Answer: C

94) Alex always takes \$ 10 more than he anticipates needing on a date. Alex takes \$ 50 on his date with Judith. Solving the equation  $d + 10 = 50$  will give you the amount of money Alex anticipates needing for this date. Solve the equation. 94) \_\_\_\_\_  
 A)  $d = \$ 40$  B)  $d = \$ 10$  C)  $d = \$ 50$  D)  $d = \$ 60$   
 Answer: A

**Solve the given equation.**

95)  $3g = 0$  95) \_\_\_\_\_  
 A)  $g = 0$  B)  $g = 1$  C)  $g = -3$  D)  $g = 3$   
 Answer: A

96)  $^{-13}d = 0$  96) \_\_\_\_\_  
 A)  $d = -13$  B)  $d = 0$  C)  $d = 13$  D)  $d = 1$   
 Answer: B

97)  $4y = 4$  97) \_\_\_\_\_  
 A)  $y = -1$  B)  $y = 1$  C)  $y = 0$  D)  $y = 4$   
 Answer: B

98)  $^{-4}k = 4$  98) \_\_\_\_\_

A)  $k = 0$   
Answer: D

B)  $k = 1$

C)  $k = 4$

D)  $k = -1$

99)  $^{-13}m = 39$   
A)  $m = 0$   
Answer: C

B)  $m = 3$

C)  $m = -3$

D)  $m = -26$

99) \_\_\_\_\_

100)  $7z = ^{-14}$   
A)  $z = 14$   
Answer: D

B)  $z = 2$

C)  $z = ^{-14}$

D)  $z = ^{-2}$

100) \_\_\_\_\_

101)  $^{-20} = ^{-5}t$   
A)  $t = 10$   
Answer: B

B)  $t = 4$

C)  $t = ^{-4}$

D)  $t = ^{-10}$

101) \_\_\_\_\_

102)  $24 = ^{-3}w$   
A)  $w = ^{-24}$   
Answer: D

B)  $w = 8$

C)  $w = 24$

D)  $w = ^{-8}$

102) \_\_\_\_\_

**Simplify where possible. Then solve the equation.**

103)  $2t = ^{-9} + 13$   
A)  $t = 2$   
Answer: A

B)  $t = ^{-11}$

C)  $t = 11$

D)  $t = ^{-2}$

103) \_\_\_\_\_

104)  $^{-4} = 5y - y$   
A)  $\frac{2}{3}$   
y =  
Answer: D

B)  $y = ^{-6}$

C)  $y = 1$

D)  $y = ^{-1}$

104) \_\_\_\_\_

105)  $17 - 5 = 4r$   
A)  $r = 0$   
Answer: B

B)  $r = 3$

C)  $r = ^{-6}$

D)  $r = ^{-3}$

105) \_\_\_\_\_

106)  $x - 5x = 48$   
A)  $x = ^{-16}$   
Answer: B

B)  $x = ^{-12}$

C)  $x = 12$

D)  $x = 16$

106) \_\_\_\_\_

107)  $5 - 5 = 6f - 5f$   
A)  $f = ^{-1}$   
Answer: C

B)  $f = 5$

C)  $f = 0$

D)  $f = 1$

107) \_\_\_\_\_

108)  $4q + 5q = 24 - 7 + 10$   
A)  $q = 3$   
Answer: A

B)  $q = 9$

C)  $q = ^{-9}$

D)  $q = ^{-3}$

108) \_\_\_\_\_

109)  $^{-11}d = 0$   
A)  $d = ^{-11}$   
Answer: D

B)  $d = ^{-1}$

C)  $d = 1$

D)  $d = 0$

109) \_\_\_\_\_

110)  $^{-25}w + 11w = 14 - 42$  110) \_\_\_\_\_  
 A)  $w = ^{-2}$  B)  $w = 14$  C)  $w = 2$  D)  $w = ^{-14}$   
 Answer: C

111)  $90 - 55 = 3x - 8x$  111) \_\_\_\_\_  
 A)  $x = 7$  B)  $x = 35$  C)  $x = ^{-35}$  D)  $x = ^{-7}$   
 Answer: D

**Use multiplication to simplify the side of the equation with the variable. Then solve the equation.**

112)  $3(5w) = ^{-45}$  112) \_\_\_\_\_  
 A)  $w = ^{-15}$  B)  $w = ^{-3}$  C)  $w = 15$  D)  $w = 3$   
 Answer: B

113)  $^{-2}(-7x) = 28$  113) \_\_\_\_\_  
 A)  $x = 2$  B)  $x = 7$  C)  $x = 4$  D)  $x = 14$   
 Answer: A

114)  $72 = ^{-3}(-4x)$  114) \_\_\_\_\_  
 A)  $x = 60$  B)  $x = ^{-6}$  C)  $x = 864$  D)  $x = 6$   
 Answer: D

115)  $45 = 5(^{-3}w)$  115) \_\_\_\_\_  
 A)  $w = 15$  B)  $w = 3$  C)  $w = ^{-3}$  D)  $w = ^{-15}$   
 Answer: C

**Solve the equation.**

116)  $^{-x} = 19$  116) \_\_\_\_\_  
 A)  $x = 0$  B)  $x = 19$  C)  $x = ^{-19}$  D)  $x = 1$   
 Answer: C

117)  $^{-x} = ^{-47}$  117) \_\_\_\_\_  
 A)  $x = 47$  B)  $x = ^{-47}$  C)  $x = 1$  D)  $x = 0$   
 Answer: A

118)  $11 = ^{-z}$  118) \_\_\_\_\_  
 A)  $z = 0$  B)  $z = 11$  C)  $z = ^{-11}$  D)  $z = 1$   
 Answer: C

**Solve the problem.**

119) The perimeter of a square is 4 times the length of one side,  $s$ . If the perimeter is 20 feet, solving the equation  $4s = 20$  will give the length of one side. Solve the equation. 119) \_\_\_\_\_  
 A)  $s = 24$  feet B)  $s = 6$  feet C)  $s = 5$  feet D)  $s = 20$  feet  
 Answer: C

120) The perimeter of an octagon with sides of equal length is 8 times the length of one side,  $s$ . If the perimeter is 96 meters, solving the equation  $8s = 96$  will give the length of one side. Solve the equation. 120) \_\_\_\_\_  
 A)  $s = 24$  meters B)  $s = 48$  meters C)  $s = 96$  meters D)  $s = 12$  meters  
 Answer: D

**Solve the equation.**

121)  $4 - 54 = -3(-3m) - 8(2m) + 2m$  121) \_\_\_\_\_  
A)  $m = 10$  B)  $m = 5$  C)  $m = 0$  D)  $m = -10$   
Answer: A

122)  $-8(3x) + 2(13x) = |53 - 53| + |-10 + 36|$  122) \_\_\_\_\_  
A)  $x = -13$  B)  $x = 13$  C)  $x = 18$  D)  $x = -18$   
Answer: B

123)  $5(8w) - 5w - 10(4w) = |-35 - 56| - 56$  123) \_\_\_\_\_  
A)  $w = -8$  B)  $w = 1$  C)  $w = 7$  D)  $w = -7$   
Answer: D

124)  $3t + 13 = 16$  124) \_\_\_\_\_  
A)  $t = -1$  B)  $t = 1$  C)  $t = 3$  D)  $t = 0$   
Answer: B

125)  $12 = 5y + 17$  125) \_\_\_\_\_  
A)  $y = 5$  B)  $y = 1$  C)  $y = -1$  D)  $y = 0$   
Answer: C

126)  $17r + 28 = 28$  126) \_\_\_\_\_  
A)  $r = -1$  B)  $r = 1$  C)  $r = 2$  D)  $r = 0$   
Answer: D

127)  $24j + 30 = 22j + 34$  127) \_\_\_\_\_  
A)  $j = 2$  B)  $j = 4$  C)  $j = -4$  D)  $j = -2$   
Answer: A

128)  $-8 + 3y = 8y + 7$  128) \_\_\_\_\_  
A)  $y = -3$  B)  $y = 3$  C)  $y = 2$  D)  $y = -2$   
Answer: A

129)  $2k + 6 = 0$  129) \_\_\_\_\_  
A)  $k = 2$  B)  $k = -3$  C)  $k = -2$  D)  $k = 3$   
Answer: B

130)  $g - 6 = 16 - 10g$  130) \_\_\_\_\_  
A)  $g = 2$  B)  $g = -2$  C)  $g = 12$  D)  $g = -12$   
Answer: A

**Use the distributive property to help solve the given equation.**

131)  $7(z - 9) = 21$  131) \_\_\_\_\_  
A)  $z = -9$  B)  $z = 12$  C)  $z = -12$  D)  $z = 9$   
Answer: B

132)  $-14 = 7(y + 6)$  132) \_\_\_\_\_  
A)  $y = -8$  B)  $y = -6$  C)  $y = 8$  D)  $y = 6$   
Answer: A

133)  $^{-4}(m - 7) = 0$  133) \_\_\_\_\_  
 A)  $m = 0$                       B)  $m = 7$                       C)  $m = 8$                       D)  $m = -7$   
 Answer: B

134)  $6(w - 13) = -18$  134) \_\_\_\_\_  
 A)  $w = -13$                       B)  $w = 13$                       C)  $w = 10$                       D)  $w = -10$   
 Answer: C

**Solve the equation.**

135)  $3(x - 6) + 9 = -1 + x - 26$  135) \_\_\_\_\_  
 A)  $x = 9$                       B)  $x = 4$                       C)  $x = -4$                       D)  $x = -9$   
 Answer: D

136)  $^{-6} + 10y + 18 = 4(2y - 6) - 8$  136) \_\_\_\_\_  
 A)  $y = -4$                       B)  $y = 22$                       C)  $y = 4$                       D)  $y = -22$   
 Answer: D

137)  $^{-3}(2p + 8) - 16 = -2(p + 9) + 6$  137) \_\_\_\_\_  
 A)  $p = -9$                       B)  $p = -7$                       C)  $p = 9$                       D)  $p = 7$   
 Answer: B

138)  $8x - 11x + 13x = 40 - 16x + 6x$  138) \_\_\_\_\_  
 A)  $x = 2$                       B)  $x = -2$                       C)  $x = -3$                       D)  $x = 3$   
 Answer: A

139)  $10x + 1 = 12x - 7$  139) \_\_\_\_\_  
 A)  $x = 4$                       B)  $x = 8$                       C)  $x = 3$                       D)  $x = 2$   
 Answer: A

140)  $2x - 2x = -8 - 3x$  140) \_\_\_\_\_  
 A)  $\frac{3}{8}$                       B)  $\frac{8}{3}$                       C)  $\frac{3}{8}$                       D)  $\frac{8}{3}$   
 $x =$                        $x =$                        $x = -$                        $x = -$   
 Answer: D

**Provide an appropriate response.**

141) Identify the variable and the constant in this expression:  $7x - x^2 + 3x^3 + 22$  141) \_\_\_\_\_  
 A) variable  $7x$ ; constant  $3x^3$                       B) variable  $x$ ; constant  $7x$   
 C) variable  $x$ ; constant  $22$                       D) variable  $22$ ; constant  $x$   
 Answer: C

142) Use the variable  $x$  to express the following property: 142) \_\_\_\_\_  
 adding zero to a number leaves the number unchanged.  
 A)  $\frac{0}{x} = 0$                       B)  $\frac{x}{0}$  is undefined.                      C)  $x \cdot 1 = x$                       D)  $x + 0 = x$   
 Answer: D

143) Use the variable  $x$  to express the following property: Any numb

er 143)  
divided  
by zero  
is  
undefine  
d.

A)  $\frac{0}{x} = 0$

B)  $x \cdot 1 = x$

C)  $x + 0 = x$

D)  $\frac{x}{0}$  is undefined.

Answer: D

144) In this expression, which two terms are like terms?  $9xy - 17x + 18 + 6xy + 7x^2y + 7xy^2 + 18y$  144) \_\_\_\_\_

A)  $9xy$  and  $6xy$

B)  $9xy$  and  $7xy^2$

C)  $7x^2y$  and  $7xy^2$

D)  $18$  and  $18x$

Answer: A

145) Which one of the following is an expression? 145) \_\_\_\_\_

A)  $3 \cdot 1 = 3$

B)  $9(x + 5) = 9x + 45$

C)  $3 \cdot 1 = 3$

D)  $20 + 0 = 20$

C)  $9(x + 5)$

B)  $20 + 0 = 20$

D)  $9(x + 5) = 9x + 45$

Answer: C

146) Does this process illustrate the addition property of equality? 146) \_\_\_\_\_

$8x + 2 + 8 = 5(x + 4) - 25$

$8x + 10 = 5(x + 4) - 25$

A) No

B) Yes

Answer: A

147) What property does this process illustrate? 147) \_\_\_\_\_

$8 - 8(x + 3) = 4 - 15x$

$8 - 8x - 24 = 4 - 15x$

A) Distributive Property

B) Addition Property of Equality

C) Division Property of Equality

D) Combining Like Terms

Answer: A

148) What is the next step to solve the following equation for x? 148) \_\_\_\_\_

$^{-}x = 23$

A) Add  $^{-}23$  to both sides.

B) Divide both sides by  $^{-}1$ .

C) Add  $^{-}1$  to both sides.

D) Divide both sides by  $23$ .

Answer: B

149) What is the next reasonable step to solve the following equation for x? 149) \_\_\_\_\_

$^{-}3x + 17 = 10x - 9$

A) Divide both sides by  $17$ .

B) Add  $^{-}17$  to both sides.

C) Combine  $10x$  and  $^{-}9$ .

D) Combine  $^{-}3x$  and  $17$ .

Answer: B

150) What is the next reasonable step to solve the following equation for x? 150) \_\_\_\_\_

$5 + 4(x + 7) = 25x - 3$

A) Divide both sides by  $5$ .

B) Add  $5$  and  $4$ .



C) Combine  $25x$  and  $-3$ .  
Answer: D

D) Use the distributive property.

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

- 52) C
- 53) C
- 54) B
- 55) C
- 56) A
- 57) A
- 58) C
- 59) D
- 60) C
- 61) B
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- 68) A
- 69) C
- 70) D
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- 72) B
- 73) A
- 74) D
- 75) B
- 76) A
- 77) D
- 78) C
- 79) B
- 80) A
- 81) A
- 82) B
- 83) C
- 84) D
- 85) D
- 86) C
- 87) C
- 88) A
- 89) B
- 90) B
- 91) D
- 92) A
- 93) C
- 94) A
- 95) A
- 96) B
- 97) B
- 98) D
- 99) C
- 100) D
- 101) B
- 102) D
- 103) A

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