Test Bank for Developmental Mathematics with Applications and Visualization Prealgebra Beginning Algebra and Intermediate Algebra 2nd Rockswold

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

Find the opposite of the integer.

1) 4
A) –1 B) –4 C) 4 D) 0
Answer: B

2) –3
A) –1 B) 0 C) –3 D) 3
Answer: D

3) 26
A) 26 B) 0 C) 1 D) –26
Answer: D

4) –12
A) –1 B) –12 C) 12 D) 0
Answer: C

5) –1
A) –1 B) 1 C) 0 D) does not exist
Answer: B

6) 183
A) –183 B) 183 C) –1 D) 0
Answer: A

7) –190
A) 190 B) 0 C) –190 D) –1
Answer: A

8) –9419
A) 0 B) –1 C) –9419 D) 9419
Answer: D

9) –27,000
A) –27,000 B) –1 C) 0 D) 27,000
Answer: D

Simplify the expression.

10) –(9)
A) –9 B) 0 C) 9 D) –1
Answer: A

11) –(–22)
A) 0 B) –22 C) –1 D) 22
Answer: D

12) –(–(–(1)))
A) does not exist B) 1 C) 0 D) –1
Answer: D

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13) –(–(–(24)))

A) 1 B) 0 C) –24 D) 24

Answer: C

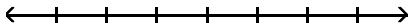
14) –(–(–(–10)))

A) –10 B) –1 C) 0 D) 10

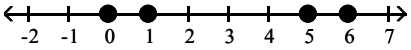
Answer: D

Graph the integers on a number line.

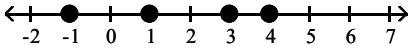
15) –1, 1, 3, 5



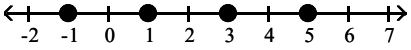
A)



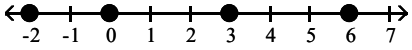
B)



C)

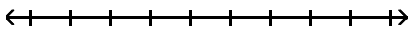


D)

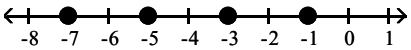


Answer: C

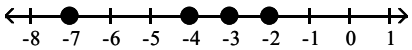
16) –7, –5, –3, –1



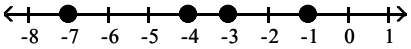
A)



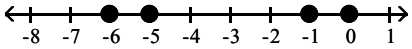
B)



C)



D)



Answer: A

Place the correct symbol, < or >, in the blank between the integers.

17) 6 ____ 1

A) > B) <

Answer: A

18) 89 ____ 49

A) < B) >

Answer: B

19) 78 ____ –31

A) < B) >

Answer: B

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20) –16 ____ –38
A) < B) >
Answer: B

21) –80 ____ –91
A) > B) <
Answer: A

22) –849 ____ 0
A) > B) <
Answer: B

23) 0 ____ –237
A) < B) >
Answer: B

Evaluate the absolute value.

24) |23|
A) –23 B) 46 C) 23 D) 0
Answer: C

25) |–18|
A) 36 B) 0 C) 18 D) –18
Answer: C

26) |55|
A) 1 B) 0 C) –55 D) 55
Answer: D

27) |–71|
A) 0 B) 71 C) –71 D) 1
Answer: B

28) |1|
A) 1 B) –1 C) does not exist D) 0
Answer: A

Simplify the absolute value expression.

29) –|–24|
A) 0 B) –24 C) 48 D) 24
Answer: B

30) –|2|
A) 0 B) 4 C) –2 D) 2
Answer: C

31) –|–0|
A) 0 B) does not exist C) –1 D) 1
Answer: A

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Place the correct symbol, <, >, or =, in the blank between the expressions.

32) 61 ____ |−61|

A) > B) < C) =

Answer: C

33) −|40| ____ −40

A) < B) = C) >

Answer: B

34) −25 ____ |−25|

A) < B) = C) >

Answer: A

35) −|−20| ____ |−20|

A) > B) = C) <

Answer: C

36) −|−2| ____ −2

A) > B) = C) <

Answer: B

37) −|−34| ____ −|34|

A) > B) = C) <

Answer: B

Provide an appropriate response.

38) Refer to the following table. Express the elevation of Location A and Location C as a positive or negative integers.

Location	Elevation
A	227 feet above sea level
B	425 feet above sea level
C	221 feet below sea level
D	13 feet below sea level
E	307 feet above sea level
F	75 feet below sea level

A) Location A: 221; Location C: −227
B) Location A: 425; Location C: −221
C) Location A: 227; Location C: −221
D) Location A: 227; Location C: −75

Answer: C

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39) Refer to the following table. Express the elevation of Location H and Location K as a positive or negative integers.

Location	Elevation
G	239,980 feet above sea level
H	5482 feet below sea level
I	2718 feet below sea level
J	8745 feet below sea level
K	11,460 feet above sea level
L	46,943 feet above sea level

A) Location H: –8745; Location K: 11,460
B) Location H: 8745; Location K: –11,460
C) Location H: 5482; Location K: –11,460
D) Location H: –5482; Location K: 11,460

Answer: D

40) The following table lists the population change over a 20–year period for selected countries. Which of these countries had the largest increase in population during this period?

Country	W	X	Y	Z
Change	–18,000	240,000	40,000	–118,000

A) W B) Y C) X D) Z

Answer: C

41) The following table lists the population change over a 20–year period for selected countries. List the countries that had a decline in population during this period

Country	A	B	C	D
Change	416,000	–230,000	150,000	–16,000

A) C and D B) A and C C) B and D D) B

Answer: C

Use absolute value to determine which of the pair of financial quantities is larger.

42) A checking account balance: $39
A credit card debt: –$45
A) $39 B) –$45

Answer: B

43) A co–worker owes you: $380
Gym membership dues: –$330
A) –$330 B) $380

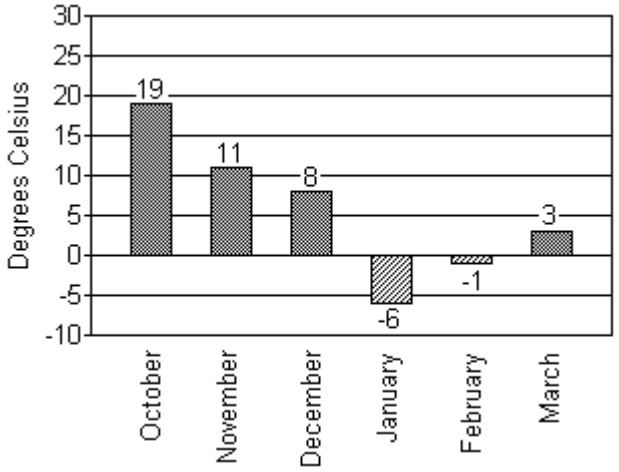
Answer: B

44) Savings bond: $4500
Tuition due: –$4300
A) $4300 B) $4500

Answer: B

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The bar graph below shows the recorded high temperatures in Little City for the indicated months.



45) In which month was the temperature closest to 0°C?

A) October B) February C) March D) January

Answer: B

46) In which month was the recorded temperature the highest?

A) January B) October C) February D) March

Answer: B

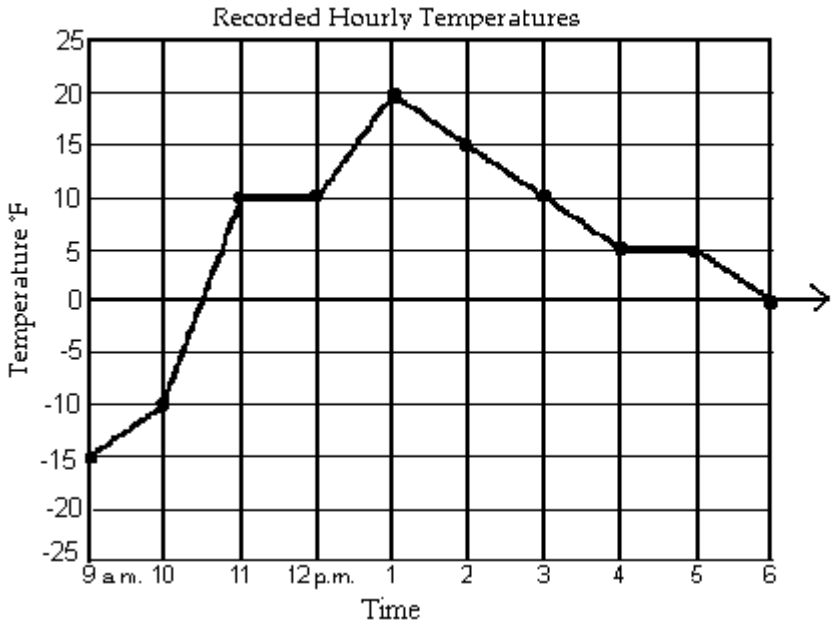
47) In which month was the temperature closest to 5°C?

A) December B) March C) January D) February

Answer: B

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The line graph shows the recorded hourly temperatures in degrees Fahrenheit at an airport.



48) Estimate the temperature at 1:30 p.m.

A) –15°F B) –18°F C) 15°F D) 18°F

Answer: D

49) Estimate the temperature at 9:45 a.m.

A) 1°F B) –11°F C) –1°F D) 11°F

Answer: B

50) Estimate when the temperature was –5°F.

A) 10:45 a.m. B) 10:15 a.m. C) 10:30 a.m. D) 10 a.m.

Answer: B

51) Estimate when the temperature was 0°F

A) 12:30 p.m. and 6:00 pm. B) 11:30 a.m.

C) 9:45 a.m. D) 10:30 a.m. and 6:00 p.m.

Answer: D

Find the sum.

52) 11 + 16

A) 5 B) –5 C) 27 D) –27

Answer: C

53) 62 + 30

A) 92 B) 91 C) 93 D) 94

Answer: A

54) –17 + 17

A) –17 B) 0 C) –34 D) 34

Answer: B

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55) –4 + 5
A) 1 B) 9 C) –1 D) –9
Answer: A

56) –5 + 7
A) 12 B) –2 C) –12 D) 2
Answer: D

57) –91 + 0
A) 91 B) 0 C) –91 D) –910
Answer: C

58) 0 + (–11)
A) 11 B) –11 C) 110 D) 0
Answer: B

59) 20 + (–20)
A) –20 B) 40 C) –40 D) 0
Answer: D

60) 8 + (–9)
A) –1 B) 17 C) –17 D) 1
Answer: A

61) 12 + (–23)
A) –36 B) –35 C) –11 D) 35
Answer: C

62) –10 + (–2)
A) 8 B) 12 C) –12 D) –8
Answer: C

63) –40 + (–19)
A) 21 B) 59 C) 60 D) –59
Answer: D

64) –50 + (–89)
A) –39 B) –139 C) 139 D) 39
Answer: B

65) –18 + (–5)
A) 23 B) –23 C) 13 D) –13
Answer: B

66) –11 + (–20)
A) 31 B) –9 C) –31 D) 9
Answer: C

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67) –20 + (–18)
A) 39 B) –38 C) –39 D) 38
Answer: B

68) –15 + (–19)
A) –4 B) 34 C) –35 D) –34
Answer: D

69) –11 + (–16)
A) –5 B) 27 C) –28 D) –27
Answer: D

70) –64 + (–33)
A) –99 B) 31 C) 97 D) –97
Answer: D

71) –79 + (–33)
A) 113 B) –113 C) 112 D) –112
Answer: D

State the addition property illustrated by the given equation.

72) –86 + 5 = 5 + (–86)
A) Identity B) Commutative C) Inverse D) Associative
Answer: B

73) 0 + (–4716) = –4716
A) Inverse B) Commutative C) Identity D) Associative
Answer: C

74) 913 + (–913) = 0
A) Identity B) Inverse C) Commutative D) Associative
Answer: B

75) 20 + (–37 + 57) = (20 + (–37)) + 57
A) Associative B) Identity C) Inverse D) Commutative
Answer: A

76) (–43 + 9) + 84 = –43 + (9 + 84)
A) Commutative B) Identity C) Inverse D) Associative
Answer: D

77) –497 + 0 = –497
A) Inverse B) Commutative C) Identity D) Associative
Answer: C

78) –156 + 156 = 0
A) Inverse B) Identity C) Commutative D) Associative
Answer: A

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The associative and commutative properties for addition allow for three or more integers to be added in any order. Find the given sum.

79) –29 + 14 + 15
A) 0 B) 1 C) 29 D) –1
Answer: A

80) 2 + (–1) + 6
A) –3 B) 7 C) 9 D) –5
Answer: B

81) –1 + (–2) + 8
A) 11 B) 9 C) 7 D) 5
Answer: D

82) –7 + 8 + (–13)
A) –12 B) 14 C) –28 D) 2
Answer: A

83) –10 + (–9) + (–13)
A) –32 B) 6 C) 12 D) –14
Answer: A

84) 8 + 10 + (–7)
A) 11 B) –9 C) 25 D) 5
Answer: A

85) –13 + 10 + 0 + (–3)
A) 20 B) 0 C) –6 D) –26
Answer: C

86) 3 + (–13) + 11 + (–1)
A) 28 B) –20 C) 0 D) –22
Answer: C

87) 3 + (–2) + (–13) + 9
A) –3 B) –21 C) 5 D) 27
Answer: A

88) –4 + (–2) + (–3) + (–14)
A) –9 B) –11 C) –23 D) –15
Answer: C

Evaluate the expression x + y for the given values of the variables.

89) x = 17, y = 15
A) 32 B) –2 C) –32 D) 2
Answer: A

90) x = –32, y = 0
A) –320 B) 32 C) –32 D) 0
Answer: C

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91) x = –16, y = –13
A) 29 B) 3 C) –29 D) –3
Answer: C

92) x = 6, y = –7
A) –13 B) 13 C) –1 D) 1
Answer: C

93) x = –3, y = –12
A) 9 B) –15 C) –9 D) 15
Answer: B

Use a number line to find the sum.

94) –1 + 5
A) 5 B) –4 C) 4 D) –6
Answer: C

95) 3 + (–4)
A) –7 B) –1 C) 7 D) 1
Answer: B

96) 7 + (–5)
A) 2 B) –12 C) –2 D) 3
Answer: A

97) –7 + (–3)
A) –4 B) –9 C) 9 D) –10
Answer: D

98) –1 + 3
A) –4 B) –2 C) 2 D) 4
Answer: C

99) –6 + 0
A) 6 B) 0 C) –60 D) –6
Answer: D

100) 4 + (–4)
A) 4 B) 1 C) –40 D) 0
Answer: D

101) –8 + 8
A) 8 B) 1 C) –80 D) 0
Answer: D

102) –6 + (–7)
A) 1 B) 13 C) –13 D) –1
Answer: C

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103) 6 + (−9)

A) −15 B) −3 C) 3 D) 15

Answer: B

Perform the addition visually using symbols.

104) 1 + (−2)

A) −3 B) 1 C) 3 D) −1

Answer: D

105) −5 + (−2)

A) 3 B) −7 C) −3 D) 7

Answer: B

106) −1 + 4

A) 3 B) 5 C) −5 D) −3

Answer: A

107) −9 + (−4)

A) 13 B) 5 C) −5 D) −13

Answer: D

108) 9 + (−10)

A) −1 B) 19 C) −19 D) 1

Answer: A

Solve the problem.

109) On part of a scenic tour of underground caves, Dave and Neil started at an elevation of −45 feet. They then rose 17 feet. What was their elevation at this point?

A) −28 ft B) −62 ft C) 62 ft D) 28 ft

Answer: A

110) The temperature at 2 p.m. on January 14 was −15° Fahrenheit. By 9 p.m. the temperature had risen 22 degrees. Find the temperature at 9 p.m.

A) −37°F B) 37°F C) 7°F D) −7°F

Answer: C

111) The temperature was 74°F in the morning, but it dropped 11°F in the afternoon and another 6°F in the evening. What was the temperature in the evening?

A) 57°F B) −69°F C) 69°F D) −57°F

Answer: A

112) In four rounds of a card game, you get scores of 6, −1, 2, and 9. What is your final score?

A) 18 B) −18 C) 16 D) −16

Answer: C

113) A game is played with red and blue tokens. If each red token represents −1 point and each blue token represents +1 point, what is the total point value of 19 red tokens and 15 blue tokens?

A) −4 B) 34 C) 4 D) −34

Answer: A

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114) Jack's checking account had a negative balance of –$89. He deposited $49 into his account. What is his new balance?

A) $40 B) $138 C) –$40 D) –$138

Answer: C

115) A bike road race starts at an elevation of 520 feet and passes through 5 stages where the elevation increases (or decreases) by –69 feet, –524 feet, 357 feet, 269 feet, and –169 feet. At what elevation does the race end?

A) –1908 feet B) 1908 feet C) 384 feet D) 1213 feet

Answer: C

116) Salve's checking account starts the month with a balance of $602. The following negative entries (withdrawals) are made in the checking register.

–15, –85, and –69

What is the new balance in her account?

A) $771 B) $433 C) $463 D) $633

Answer: B

117) Marco had a balance of $472 in his checking account. The following positive entries (deposits) and negative entries (withdrawals) are made to the account.

–262, 656, and –618

What is the current balance in his account?

A) $1484 B) $248 C) $772 D) $2008

Answer: B

118) A corporation's bank account has a balance of $6219. The following positive entries (deposits) and negative entries (withdrawals) are made to the account.

2902, –5602, –3370, 2303, and 4062

What is the ending balance?

A) –$6514 B) $9986 C) $5924 D) $6514

Answer: D

Find the difference.

119) 10 – 4

A) –6 B) 14 C) 6 D) –14

Answer: C

120) 5 – 6

A) 1 B) 11 C) –1 D) –11

Answer: C

121) –3 – 13

A) –16 B) –10 C) 16 D) 10

Answer: A

122) –10 – (–1)

A) –9 B) –11 C) 9 D) 11

Answer: A

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123) 13 – (–5)
A) 18 B) 8 C) –18 D) –8
Answer: A

124) 18 – 0
A) –18 B) 0 C) 18 D) 36
Answer: C

125) 0 – 12
A) 12 B) 0 C) –11 D) –12
Answer: D

126) –12 – 12
A) –24 B) 24 C) 0 D) –12
Answer: A

127) 0 – (–4)
A) 0 B) –4 C) 4 D) 8
Answer: C

128) 7 – (–7)
A) 7 B) 14 C) 0 D) –14
Answer: B

129) –29 – (–7)
A) 36 B) –36 C) –22 D) 22
Answer: C

130) –12 – 25
A) –13 B) –37 C) 37 D) 13
Answer: B

131) 19 – (–9)
A) –28 B) 10 C) –10 D) 28
Answer: D

132) –6 – (–14)
A) –6 B) –8 C) 8 D) –20
Answer: C

133) –16 – (–4)
A) –12 B) –20 C) 20 D) 12
Answer: A

134) 63 – (–23)
A) 86 B) –86 C) –40 D) 40
Answer: A

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Evaluate the expression x – y for the given values of the variables.

135) x = 9, y = 13
A) 22 B) 4 C) –22 D) –4
Answer: D

136) x = –4, y = 5
A) –1 B) –9 C) 1 D) 9
Answer: B

137) x = –14, y = –1
A) –15 B) –13 C) 13 D) 15
Answer: B

138) x = –5, y = 26
A) 31 B) –31 C) –21 D) 21
Answer: B

139) x = –7, y = 17
A) –24 B) 10 C) –10 D) 24
Answer: A

140) x = 20, y = –9
A) 11 B) 29 C) –29 D) –11
Answer: B

141) x = –9, y = –19
A) –10 B) 10 C) –9 D) –28
Answer: B

142) x = –24, y = 30
A) 6 B) –54 C) 54 D) –6
Answer: B

Simplify the expression.

143) 17 + (–15) – (–7)
A) –9 B) –5 C) 9 D) 25
Answer: C

144) –17 – 19 + (–3)
A) –39 B) 5 C) –5 D) –1
Answer: A

145) –19 + 4 – 11
A) –12 B) –26 C) –4 D) 26
Answer: B

146) –8 + 3 – (–4) + 13
A) 12 B) –2 C) 4 D) –14
Answer: A

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147) 14 + (–12) – 9 – (–11)
A) 24 B) –18 C) 4 D) 0
Answer: C

148) 43 + (–12) – 23 – (–77) + (–13)
A) 98 B) 72 C) –82 D) –56
Answer: B

Use a number line to find the difference.

149) –3 – 4
A) –1 B) 2 C) –7 D) 1
Answer: C

150) –1 – (–2)
A) –3 B) –1 C) 1 D) 2
Answer: C

151) –9 – (–1)
A) –9 B) 9 C) –10 D) –8
Answer: D

Use a number line to simplify the given expression.

152) –3 + (–4) + 3 + (–5) + (–2)
A) 11 B) –17 C) –11 D) –7
Answer: C

Perform the subtraction visually using symbols.

153) 2 – (–1)
A) 3 B) –3 C) –1 D) 1
Answer: A

154) –9 – 2
A) –7 B) –11 C) 7 D) –6
Answer: B

155) –8 – (–2)
A) –10 B) –6 C) 6 D) –5
Answer: B

156) 5 – (–2)
A) –7 B) –3 C) 3 D) 7
Answer: D

157) –6 – (–4)
A) –10 B) 9 C) –2 D) –9
Answer: C

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Solve the problem.

158) The temperature one day was reported to be –24°F. The next day, it was reported to be 27°F. By how many degrees did the temperature rise?
A) 51°F B) –51°F C) –3°F D) 3°F
Answer: A

159) What is the difference between a daytime temperature of 10° F and a nighttime temperature of –6° F?
A) 16°F B) –16°F C) 4°F D) –4°F
Answer: A

160) What is the difference in altitude between the peak of a mountain 16,557 feet above sea level and the peak of a mountain 15,351 feet above sea level?
A) 31,908 feet B) 32,008 feet C) 1206 feet D) 1306 feet
Answer: C

161) The windchill temperature was –3° F, and the actual temperature was 22° F. Find the difference between the actual temperature and the windchill temperature.
A) 50°F B) 19°F C) 25°F D) 27°F
Answer: C

162) In a game, each red token represents –1 point and each blue token represents +1 point. How many more points does a player with 10 blue tokens have than a player with 14 red tokens?
A) –24 B) 4 C) –4 D) 24
Answer: D

163) Nikki is fishing from a bank 37 feet above water level. In this location, the fish tend to feed at 39 feet below the surface. How long must Nikki's fish line be to reach the fish?
A) –2 feet B) –37 feet C) 76 feet D) 2 feet
Answer: C

164) Find the difference in altitude between a mountain 3225 feet above sea level and an ocean floor 71 feet below sea level.
A) –3154 feet B) 3296 feet C) –3296 feet D) 3154 feet
Answer: B

165) Find the difference in altitude between an ocean floor 73 feet below sea level and an ocean canyon 227 feet below sea level.
A) 154 feet B) 300 feet C) –300 feet D) –154 feet
Answer: A

166) Stuart has a balance of –$15 in his bank account. To avoid further charges, he must have a balance of $11. What is the minimum he can deposit to avoid further charges?
A) $4 B) $26 C) –$4 D) –$26
Answer: B

167) A student with a net worth of –$75,910 inherits an amount of money so that her net worth becomes $5340. How much money did she inherit?
A) $81,250 B) –$5340 C) $157,160 D) –$157,160
Answer: A

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168) The temperature on a December morning is –9°F at 6 a.m. If the temperature drops 3°F by 7 a.m., rises 9°F by 8 a.m., and then drops 2°F by 9 a.m., find the temperature at 9 a.m.

A) 5°F B) 23°F C) –5°F D) –23°F

Answer: C

Multiply.

169) $-19 \cdot (-4)$

A) 76 B) 95 C) –76 D) –95

Answer: A

170) $6(-8)$

A) 48 B) –96 C) –38 D) –48

Answer: D

171) $-6 \cdot 12$

A) –720 B) –172 C) –84 D) –72

Answer: D

172) $9 \cdot (-4)$

A) –36 B) –136 C) –45 D) –360

Answer: A

173) $19(-15)$

A) –270 B) –304 C) –285 D) 270

Answer: C

174) $-9(18)$

A) –180 B) –162 C) –153 D) 153

Answer: B

175) $5(-9)$

A) –45 B) –145 C) –50 D) –450

Answer: A

176) $-3 \cdot (0)$

A) 3 B) –6 C) –3 D) 0

Answer: D

177) $9 \cdot 9$

A) 72 B) 90 C) 18 D) 81

Answer: D

178) $(-70) \cdot 9$

A) 79 B) –630 C) –560 D) –700

Answer: B

179) $-4 \cdot 4 \cdot (-4)$

A) 54 B) 64 C) –64 D) 164

Answer: B

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180) $7 \cdot (-3) \cdot 7$
A) 147 B) −147 C) 28 D) −28
Answer: B

181) $-3(-3)(-3)$
A) −27 B) 27 C) −17 D) 18
Answer: A

182) $-4 \cdot (-7) \cdot 0 \cdot 3$
A) 84 B) −84 C) 0 D) 74
Answer: C

183) $6 \cdot (-1) \cdot 2 \cdot (-5)$
A) 60 B) 16 C) 9 D) −60
Answer: A

184) $6(-1)(-3)(-6)$
A) 9 B) −108 C) 108 D) 24
Answer: B

185) $-8(-1)(-10)(-3)$
A) 240 B) 1 C) −240 D) 38
Answer: A

186) $-2 \cdot 5 \cdot (-6) \cdot 2$
A) 120 B) 36 C) −36 D) −120
Answer: A

187) $-1(-4)(-4)(8)(-4)(-1)(-1)$
A) 512 B) 534 C) 128 D) −512
Answer: A

State the multiplication property illustrated by the given equation.

188) $(-70) \cdot 7 = 7 \cdot (-70)$
A) Zero B) Identity C) Commutative D) Distributive
Answer: C

189) $0(-176) = 0$
A) Distributive B) Zero C) Identity D) Commutative
Answer: B

190) $(-3 \cdot 3) \cdot (-5) = -3 \cdot (3 \cdot (-5))$
A) Distributive B) Commutative C) Identity D) Associative
Answer: D

191) $(-76{,}000) \cdot 0 = 0$
A) Distributive B) Zero C) Identity D) Commutative
Answer: B

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192) $-7 \times (-13) = -13 \times (-7)$

A) Zero B) Identity C) Commutative D) Distributive

Answer: C

193) $-76{,}662 \cdot 1 = -76{,}662$

A) Identity B) Zero C) Distributive D) Commutative

Answer: A

194) $-4(-3 + 3) = -4(-3) + (-4)(3)$

A) Identity B) Distributive C) Commutative D) Associative

Answer: B

195) $1 \times (-7900) = -7900$

A) Identity B) Commutative C) Zero D) Distributive

Answer: A

196) $-3(5 - (-6)) = -3(5) - (-3)(-6)$

A) Commutative B) Distributive C) Associative D) Identity

Answer: B

Evaluate the exponential expression.

197) $(-1)^4$

A) -1 B) -4 C) 4 D) 1

Answer: D

198) -5^3

A) 125 B) $-15{,}625$ C) -125 D) 625

Answer: C

199) $(-1)^5$

A) 5 B) -5 C) -1 D) 1

Answer: C

200) $(-5)^5$

A) $-15{,}625$ B) 625 C) 3125 D) -3125

Answer: D

201) $(-4)^2$

A) 16 B) -4 C) 4 D) -16

Answer: A

202) -2^4

A) -32 B) 16 C) 32 D) -16

Answer: D

203) -10^3

A) -30 B) -1000 C) 1000 D) 30

Answer: B

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204) $(-10)^8$

A) 10,000 B) −10,000 C) −100,000,000 D) 100,000,000

Answer: D

205) $(-10)^7$

A) −1,000,000 B) 10,000,000 C) −10,000,000 D) 1,000,000

Answer: C

Divide, if possible. If a quotient is undefined, state so.

206) $-24 \div 3$

A) 8 B) −9 C) −8 D) −7

Answer: C

207) $72 \div (-9)$

A) −9 B) 9 C) 8 D) −8

Answer: D

208) $-72 \div (-8)$

A) −10 B) 10 C) −9 D) 9

Answer: D

209) $\frac{-63}{7}$

A) 9 B) −10 C) −8 D) −9

Answer: D

210) $\frac{32}{-4}$

A) −8 B) 8 C) −9 D) −7

Answer: A

211) $\frac{-16}{-8}$

A) −2 B) −1 C) −3 D) 2

Answer: D

212) $\frac{-54}{-9}$

A) 45 B) −45 C) −6 D) 6

Answer: D

213) $\frac{-25}{0}$

A) 1 B) 0 C) Undefined D) 25

Answer: C

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214) $\frac{0}{-5}$

A) –5 B) 0 C) Undefined D) 1

Answer: B

215) $-18 \div 1$

A) 18 B) Undefined C) 1 D) –18

Answer: D

216) $\frac{17}{0}$

A) 0 B) 1 C) Undefined D) 17

Answer: C

217) $\frac{30}{-6}$

A) 5 B) –5 C) –24 D) 24

Answer: B

218) $45 \div (-45)$

A) 0 B) –1 C) 1 D) –45

Answer: B

219) $\frac{55}{-5}$

A) –1 B) –11 C) 11 D) 55

Answer: B

Find all integer square roots of the given number, if possible.

220) 100

A) 10 B) $-10, 10$

C) No integer square roots D) 50

Answer: B

221) –225

A) $-15, 15$ B) 112

C) No integer square roots D) 15

Answer: C

222) 0

A) No integer square roots B) –0, 0

C) 0 D) –1, 1

Answer: C

223) 1

A) –1, 1 B) 1

C) No integer square roots D) 0

Answer: A

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Simplify the expression, if possible.

224) $\sqrt{36}$

A) –6 B) Not an integer C) 6 D) 12

Answer: C

225) $-\sqrt{81}$

A) 9 B) 18 C) –9 D) Not an integer

Answer: C

226) $\sqrt{-64}$

A) 16 B) –8 C) 8 D) Not an integer

Answer: D

227) $-\sqrt{81}$

A) Not an integer B) 9 C) 40 D) –9

Answer: D

228) $\sqrt{0}$

A) –1 B) Not an integer C) 1 D) 0

Answer: D

229) $-\sqrt{1}$

A) 0 B) Not an integer C) –1 D) 1

Answer: C

Evaluate the expression for the given values of the variables, if possible.

230) $9y \quad y = -4$

A) –136 B) –45 C) –36 D) –360

Answer: C

231) $-10x \quad x = -2$

A) 30 B) –20 C) –30 D) 20

Answer: D

232) $\frac{x}{2} \quad x = -18$

A) –8 B) –10 C) 9 D) –9

Answer: D

233) $\sqrt{-n} \quad n = -16$

A) –6 B) Not an integer C) –4 D) 4

Answer: D

234) $-\sqrt{a} \quad a = 16$

A) 4 B) Not an integer C) –4 D) –6

Answer: C

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235) $-\sqrt{x}$ $x = -36$

A) −8 B) 6 C) −6 D) Not an integer

Answer: D

236) $-\sqrt{-m}$ $m = 100$

A) 10 B) −12 C) Not an integer D) −10

Answer: C

237) $-5xy$ $x = 3, y = -5$

A) 175 B) 75 C) −75 D) 65

Answer: B

238) $\frac{a}{b}$ $a = -35, b = -5$

A) −8 B) −7 C) 7 D) −6

Answer: C

239) $-xy$ $x = -9, y = -12$

A) −1080 B) −108 C) −208 D) −120

Answer: B

240) $a \cdot (-b)$ $a = -11, b = -2$

A) −24 B) −22 C) −122 D) −220

Answer: B

241) $2 \cdot (-m) \cdot n$ $m = -10, n = -10$

A) −200 B) −20 C) −120 D) −220

Answer: A

Solve the problem.

242) The record low temperature for a City A is −7°F. If The record low temperature for City B is 6 times as cold as that of City A, what is the record low for City B?

A) −17°F B) −25°F C) −42°F D) 12°F

Answer: C

243) A football team lost 9 yards on each of two consecutive plays. Represent the total loss as product of integers and find the total loss.

A) 9 − 2 = 7 yds; 7 yard loss
B) 2 + (−9) = −7 yds; 7 yard loss
C) 2 · (−9) = −20 yds; 20 yard loss
D) 2 · (−9) = −18 yds; 18 yard loss

Answer: D

244) A rock climber descends to the floor of a canyon in 9 stages, dropping 400 feet each time. Write the total depth of the canyon as a product of integers and find the depth of the canyon.

A) 9 · (−400) = −3600; 3600 feet deep
B) 9 · (400) = 2600; 2600 feet deep
C) 9 · (−400) = −2700; 2700 feet deep
D) 9 · (400) = 360; 360 feet deep

Answer: A

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245) A city government study suggested the number of homeless people dropped by 405 over the last 3 years. Assuming that that decrease was the same for each of the 3 years of the study, write the yearly decrease as a quotient of integers and find the yearly decrease.

A) $405 \cdot 3 = 1333$; 1333 fewer homeless
B) $405 \cdot 3 = 1370$; 1370 fewer homeless
C) $-405 \div 3 = -138$; 138 fewer homeless
D) $-405 \div 3 = -135$; 135 fewer homeless

Answer: D

Evaluate the expression.

246) $-7 + 8 \cdot 3$

A) 168 B) 31 C) 17 D) 32

Answer: C

247) $-8 + 80 \div (-4)$

A) −18 B) −28 C) 18 D) 28

Answer: B

248) $66 - 7 \cdot 5 + 135 \div (-15)$

A) 286 B) −13 C) 22 D) −551

Answer: C

249) $(-16 + 86) \div 14 - 15$

A) 20 B) −10 C) −20 D) 10

Answer: B

250) $8 \cdot 2 + 18 \div (8 - (3 + 2))$

A) 21 B) 22 C) 24 D) 23

Answer: B

251) $4 \cdot 7 - 8^2$

A) 36 B) 224 C) 420 D) −36

Answer: D

252) $-8 \cdot (2 - 5) - 2^4$

A) 16 B) 8 C) −3 D) 40

Answer: B

253) $7 \cdot (8 - 15)^2$

A) −343 B) −49 C) 343 D) 49

Answer: C

254) $\dfrac{-45 - 75}{-15}$

A) −8 B) −2 C) 8 D) −15

Answer: C

255) $\dfrac{-24}{8 + 4}$

A) 2 B) −20 C) 12 D) −2

Answer: D

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256) $\frac{3^2 + 6(-5)}{6 + (-13)}$

A) 4 B) 3 C) −19 D) −3

Answer: B

257) $\frac{4(-6) - 3 + 8}{-95 \div 5}$

A) −1 B) 1 C) 6 D) 5

Answer: B

258) $\left|\frac{1 - 4(-1)}{12 - (17)}\right|$

A) 1 B) −1 C) −2 D) −5

Answer: A

259) $|10(-2)| - |1 - 8|$

A) −27 B) 27 C) −13 D) 13

Answer: D

260) $|7 - 17| \cdot (-8) \div (-4)$

A) 320 B) 20 C) −320 D) −20

Answer: B

261) $-3 - 4\sqrt{25}$

A) −23 B) 23 C) −30 D) 30

Answer: A

262) $\sqrt{-9 + 10 \cdot 9}$

A) −36 B) 81 C) −9 D) 9

Answer: D

263) $-\sqrt{10^2 - 6^2}$

A) −9 B) 7 C) 8 D) −8

Answer: D

264) $4^3 - (2 + 5\sqrt{25 - 9}) + 26 - 11$

A) 67 B) 5 C) 57 D) 87

Answer: C

265) $\frac{-6(6^2) - 6(7 - 3)}{-6(5 - 8) \div (-3)}$

A) −46 B) 46 C) 40 D) −40

Answer: C

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266) $\dfrac{17 + |3(8 - 12)| + 4}{25 - 8 - 3^3 + 21}$

A) –2 B) 3 C) 14 D) 6

Answer: B

Insert parentheses as needed in the expression in order to make it equal to 0. More than one set of parentheses may be needed.

267) $8 + 4 \cdot 3 - 5$

A) $8 + 4 \cdot 3 - 5$ B) $(8 + 4) \cdot 3 - 5$ C) $8 + 4 \cdot (3 - 5)$ D) $8 + (4 \cdot 3) - 5$

Answer: C

268) $7^2 \div 4 + 3 - 7$

A) $7^2 \div 4 + (3 - 7)$ B) $7^2 \div (4 + 3) - 7$ C) $7^2 \div 4 + 3 - 7$ D) $(7^2 \div 4) + 3 - 7$

Answer: B

269) $8 - 8 \cdot 3^2 + 3$

A) $8 - (8 \cdot (3^2 + 3))$ B) $(8 - 8) \cdot 3^2 + 3$ C) $(8 - 8) \cdot (3^2 + 3)$ D) $8 - (8 \cdot 3^2) + 3$

Answer: C

270) $-3 - 1 - 8^2 \div 16$

A) $(-3 - 1 - 8^2) \div 16$ B) $(-3 - 1) - 8^2 \div 16$ C) $-3 - (1 - 8^2) \div 16$ D) $-3 - (1 - 8^2 \div 16)$

Answer: D

Evaluate the expression for the given values of the variables, if possible.

271) $-x + y \cdot 4$, for $x = 6, y = 6$

A) 30 B) 12 C) 18 D) 144

Answer: C

272) $x - 5 \cdot y$, for $x = 2, y = 0$

A) 8 B) 42 C) 0 D) 2

Answer: D

273) $x \cdot y - 8^2$, for $x = 3, y = 3$

A) 55 B) 120 C) –120 D) –55

Answer: D

274) $m + 30 \div (n)$, for $m = -16, n = -3$

A) 26 B) 5 C) –26 D) –5

Answer: C

275) $n \cdot (m - 20)^2$, for $m = 11, n = 7$

A) –567 B) 567 C) –63 D) 81

Answer: B

276) $-12 + m \div (n)$, for $m = 0, n = -8$

A) 18 B) –12 C) 4 D) 0

Answer: B

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277) $w - 5 \cdot v + 48 \div (-6)$, for $v = 15$, $w = 80$

A) 1117 B) −3 C) −787 D) −23

Answer: B

278) $x \cdot 5 + y \div (x - (3 + 2))$, for $x = 8$, $y = 15$

A) 46 B) 47 C) 44 D) 45

Answer: D

279) $\frac{3^2 + 9(d)}{5 + (c)}$, for $c = -17$, $d = -5$

A) −22 B) 3 C) −3 D) 4

Answer: B

280) $x^3 - (4 + x\sqrt{y - 16}) + 22 - 7$, for $x = 2$, $y = 25$

A) 23 B) −37 C) 7 D) 15

Answer: C

281) $\frac{-9 + |3(9 - g)| + 6}{22 - h - 3^3 + 16}$, for $g = 14$, $h = 7$

A) 14 B) −2 C) 6 D) 3

Answer: D

282) $-\sqrt{a^2 - b^2}$, for $a = 15$, $b = 9$

A) −14 B) 11 C) −12 D) 12

Answer: C

Solve the problem.

283) To convert a temperature F given in degrees Fahrenheit to an equivalent temperature C in degrees Celsius, use the formula $C = \frac{5(F - 32)}{9}$. Find the Celsius temperature that is equivalent to 5°F.

A) −15°C B) 21°C C) −29°C D) 41°C

Answer: A

284) To convert a temperature C given in degrees Celsius to an equivalent temperature F in degrees Fahrenheit, use the formula $F = \frac{9C}{5} + 32$. Find the Fahrenheit temperature that is equivalent to −35°C.

A) −37°F B) −31°F C) −2°F D) −95°F

Answer: B

285) Find the average of the list of Fahrenheit temperatures.

−17°, 2°, −9°, 3°, 12°, −5°, and 7°F

A) 1°F B) −1°F C) −2°F D) −3°F

Answer: B

286) Find the average of the list of Celsius temperatures.

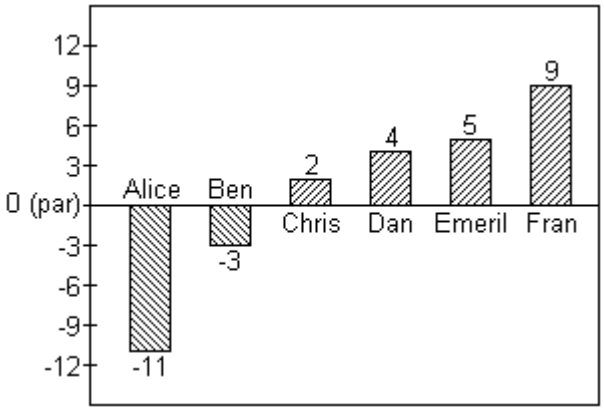
−21°, −1°, −1°, −3°, −2°, and 4°C

A) −2°C B) −3°C C) −5°C D) −4°C

Answer: D

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Scores in golf can be 0 (also called par), a positive integer (also called above par) or a negative integer (also called below par). Below are the scores of some members of a college golf team in a recent tournament.



287) Find the average of the scores for Alice, Chris, Dan and Emeril.

A) 0 B) 6 C) –6 D) –3

Answer: A

288) Find the average of the scores of the members shown.

A) –1 B) 2 C) 1 D) 0

Answer: C

Determine if the given value is a solution to the given equation.

289) –13, $x - 10 = 3$

A) Yes B) No

Answer: B

290) –6, $y - 11 = -17$

A) Yes B) No

Answer: A

291) –5, $8x = 45 - x$

A) Yes B) No

Answer: B

292) 13, $18 - p = -5$

A) Yes B) No

Answer: B

293) 0, $h + 6 = 6$

A) Yes B) No

Answer: A

294) –4, $4 + x = 0$

A) Yes B) No

Answer: A

295) –7, $-12 + 140 \div (y) = 32$

A) Yes B) No

Answer: B

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296) 8, $\frac{-44}{x+3} = -4$

A) Yes B) No

Answer: A

297) 9, $3(x - 4) = 19$

A) Yes B) No

Answer: B

298) –29, $7c + 4 - 6c = -30 + 5$

A) Yes B) No

Answer: A

299) 15, $3a + 3 - 2a = -21 + 9$

A) Yes B) No

Answer: B

300) –3, $x^2 - 8x - 27 = 0$

A) No B) Yes

Answer: A

301) 9, $x^2 - 36 = 5x$

A) Yes B) No

Answer: A

Solve the equation.

302) $m - 9 = 7$

A) –2 B) 16 C) –16 D) 2

Answer: B

303) $-22 = n - 7$

A) 15 B) 29 C) –29 D) –15

Answer: D

304) $-25 = x + (-24)$

A) –1 B) 26 C) –26 D) 24

Answer: A

305) $6 = a - (-17)$

A) –11 B) 23 C) 11 D) –23

Answer: A

306) $2y = 2$

A) 2 B) 1 C) 0 D) –1

Answer: B

307) $-75 = 5q$

A) –15 B) 1 C) –80 D) 80

Answer: A

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308) $13z = -26$

A) -2 B) 2 C) -26 D) 26

Answer: A

309) $-48 \div t = -12$

A) 4 B) 24 C) -24 D) -4

Answer: A

310) $32 \div w = -4$

A) 8 B) -32 C) -8 D) 32

Answer: C

311) $n^3 = 216$

A) -216 B) 46,656 C) -6 D) 6

Answer: D

312) $-64 = a^3$

A) -16 B) 4 C) -4 D) 64

Answer: C

313) $(-x)^3 = 216$

A) -36 B) 216 C) -6 D) 6

Answer: C

314) $\sqrt{y} = 10$

A) 10,000 B) 110 C) 90 D) 100

Answer: D

315) $-\sqrt{x} = -2$

A) -4 B) 30 C) 16 D) 4

Answer: D

316) $7n - 2 = 33$

A) 5 B) 28 C) 6 D) 32

Answer: A

317) $55 = 7x - 8$

A) 56 B) 9 C) 60 D) 15

Answer: B

Complete the table and use it to solve the given equation.

318) $x - 3 = -2$

x	-2	-1	0	1	2
$x - 3$					

A) 2 B) 1 C) -2 D) No solution

Answer: B

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319) $3x + 2 = -4$

x	−2	−1	0	1	2
$3x + 2$					

A) No solution B) 1 C) −2 D) 2

Answer: C

320) $4 - 5x = -6$

x	−2	−1	0	1	2
$4 - 5x$					

A) −2 B) −1 C) 2 D) No solution

Answer: C

321) $\sqrt{10 - x} = 5$

x	−39	−26	−15	−6	10
$\sqrt{10 - x}$					

A) −15 B) −6 C) −26 D) No solution

Answer: A

Solve the equation by making a table of values. Use –3, –2, –1, 0, 1, 2, and 3 for the values of x in your table.

322) $x - 6 = -9$

x	−3	−2	−1	0	1	2	3
$x - 6$							

A) 0 B) 1 C) −2 D) −3

Answer: D

323) $1 - 2x = -3$

x	−3	−2	−1	0	1	2	3
$1 - 2x$							

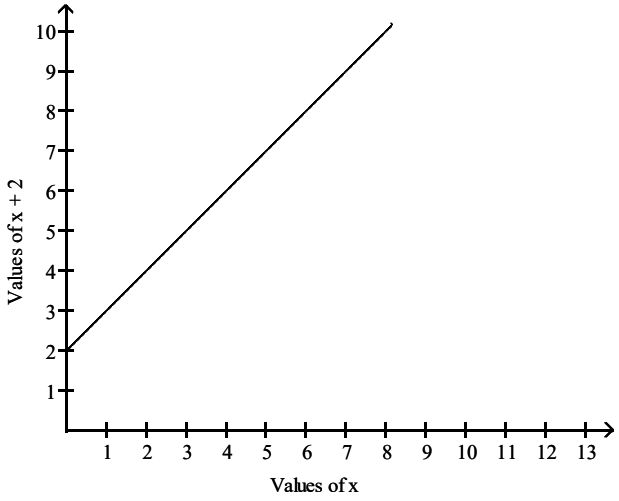
A) −2 B) 1 C) 2 D) −3

Answer: C

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Solve the given equation graphically.

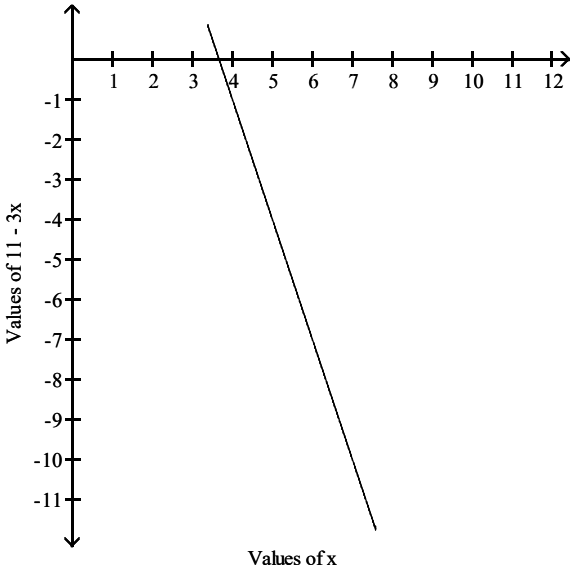
324) $x + 2 = 7$



A) 3 B) 4 C) 10 D) 5

Answer: D

325) $11 - 3x = -10$

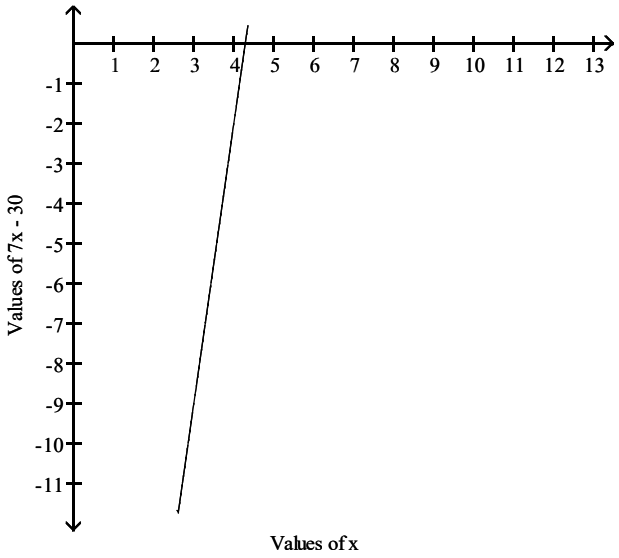


A) 1 B) 7 C) 3 D) 9

Answer: B

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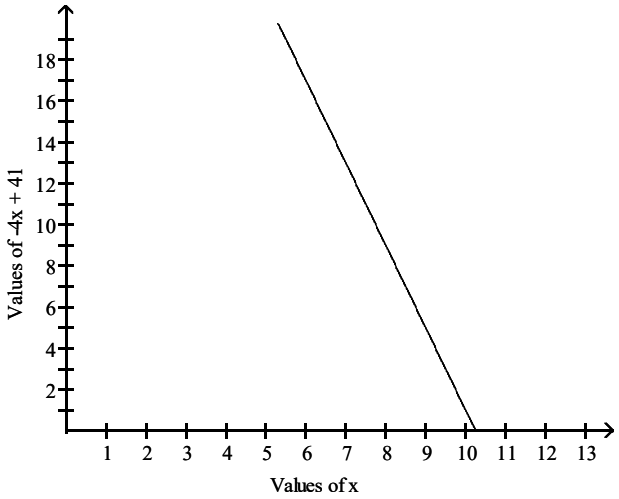
326) $7x - 30 = -9$



A) 2 B) 4 C) 5 D) 3

Answer: D

327) $-4x + 41 = 17$



A) 8 B) 6 C) 3 D) 10

Answer: B

Solve the problem.

328) The gas mileage M of a truck using G gallons of diesel fuel to travel a distance of 72 miles is given by $M = \frac{72}{G}$.

Complete the table to find the number of gallons used by a truck traveling 72 miles if the truck gets M = 24 miles per gallon.

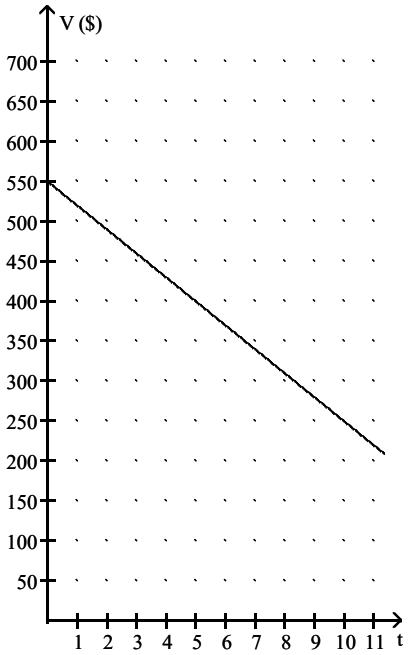
G	1	2	3	4
$\frac{72}{G}$				

A) 4 B) 2 C) 1 D) 3

Answer: D

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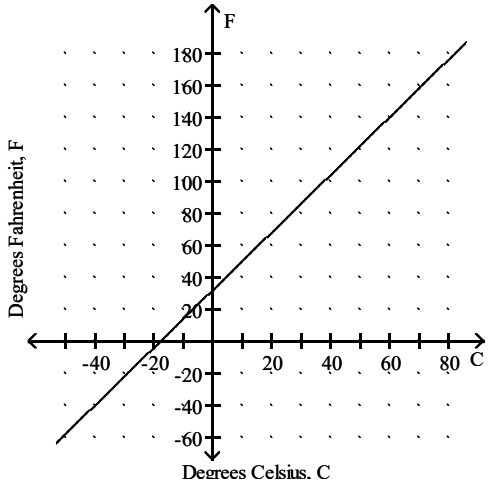
329) The value V, in dollars, of a shopkeeper's inventory software program is given by the formula $V = -30t + 550$, where t is the number of years since the shopkeeper first bought the program. Find the number of years after which the value of the inventory program is \$280 by solving the equation $280 = -30t + 550$ graphically, using the following graph.



A) 9 years B) 10 years C) 550 years D) 6 years

Answer: A

330) The equation $F = \frac{9}{5}C + 32$ is used to convert a temperature given in degrees Celsius C to its equivalent temperature in degrees Fahrenheit F. Find the temperature C if the temperature F is 50 by solving the equation $50 = \frac{9}{5}C + 32$ graphically, using the following graph.



A) –38°C B) 38°C C) 10°C D) 18°C

Answer: C

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