04-11-19

Student: _____ **Instructor:** Alfredo Alvarez **Assignment:** 04-15-19
Date: _____ **Course:** Math 0410 / 0320 Alvarez M3RDGEOWHOLEFIESTA145N150PPMR

1. Determine the place value of the digit 5 in the whole number.

656

Choose the correct answer below.

- ○ Hundreds
- ○ Thousands
- ○ Tens
- ○ Ones

Answer: Tens

656 ↑ Tens

2. Write the whole number in expanded form.

6190

6190 = [ ] (Type your answer using plus signs.)

Answer: 6000 + 100 + 90

6190
6(1000) + 1(100) + 9(10) + 0(1) =
6000 + 100 + 90 =

3. The table shows the number of calories burned during 30 minutes of exercise and how the number of calories burned varies according to the weight of the person doing the exercise. For a person weighing 130 pounds, how many calories will be burned during 30 minutes of moderate cycling?

Activity	110 lb	130 lb
Moderate jogging	310	367
Moderate walking	110	130
Moderate cycling	142	168
Aerobic dance	195	230
Racquetball	216	255
Tennis	162	191

[ ] calories

Answer: 168

168

4.

The table shows the number of calories burned during 30 minutes of exercise and how the number of calories burned varies according to the weight of the person doing the exercise. For a person weighing 140 pounds, which activity burns the second most calories?

Activity	120 lb	140 lb
Moderate jogging	344	402
Moderate walking	120	140
Moderate cycling	151	176
Aerobic dance	211	246
Racquetball	235	274
Tennis	166	193

Second most calories

Choose the correct answer below

- A. Moderate walking
- B. Racquetball
- C. Moderate cycling
- D. Tennis
- E. Moderate jogging
- F. Aerobic dance

Answer: B. Racquetball

5.

The table shows the five longest rivers in the world.

Use the table to determine which river is the fifth longest in the world.

River	Miles
Chang jiang-Yangtze (China)	3964
Amazon (Brazil)	4000
Tenisei-Angara (Russia)	3442
Mississippi-Missouri (U.S.)	3740
Nile (Egypt)	4145

3 2 5 4 1

Which river is the fifth longest in the world?

- Mississippi-Missouri
- Chang jiang-Yangtze
- Amazon
- Nile
- Tenisei-Angara

Answer: Tenisei-Angara

6.

The table shows the top ten popular breeds of dogs. Use the table to answer the following question.

Which breed has a greater average weight, the German shepherd or the Boxer?

The (1) _____ has a greater average weight.

Top Ten Popular Breeds of Dogs

Breed	Average Dog Maximum Height (in inches)	Average Dog Maximum Weight (in pounds)
Labrador retriever	25	75
German shepherd	26	95
Golden retriever	24	80
Beagle	15	30
Bulldog	26	90
Yorkshire terrier	9	7
Boxer	25	70
Poodle	standard: 26	standard: 70
Rottweiler	26	none given
Dachshund	9	25

Greater average weight

(1) ○ Boxer
○ German shepherd

Answer: (1) German shepherd

7. Add.

71 + 26

The sum is _____.

$$\begin{array}{r} 71 \\ +\ 26 \\ \hline 97 \end{array}$$

Answer: 97

8. Add.

$$\begin{array}{r} 19 \\ +\ 420 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ +\ 420 \\ \hline 439 \end{array}$$

Answer: 439

9. Subtract.

$$\begin{array}{r} 91 \\ -\ 66 \\ \hline \end{array}$$

The difference is ☐.

Answer: 25

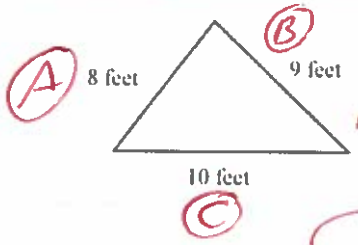
10. Subtract.

$82 - 75$

The answer is ☐.

Answer: 7

11. Find the perimeter of the figure.

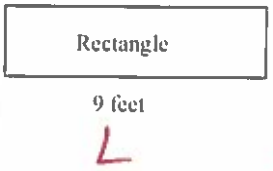


$P = A + B + C$
$P = 8 + 9 + 10$
$P = 17 + 10$
$P = 27$

The perimeter is ☐ feet.

Answer: 27

12. Find the perimeter of the figure.



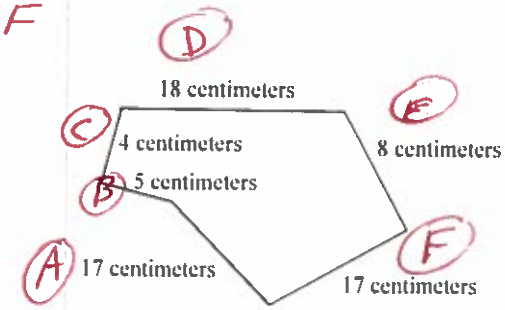
$P = 2L + 2W$
$P = 2(9) + 2(5)$
$P = 18 + 10$
$P = 28$

☐ ft

Answer: 28

13. Find the perimeter of the figure.

$P = A + B + C + D + E + F$



☐ cm

$P = 17 + 5 + 4 + 18 + 8 + 17$
$P = 22 + 4 + 18 + 8 + 17$
$P = 26 + 18 + 8 + 17$
$P = 44 + 8 + 17$
$P = 52 + 17$
$P = 69$

Answer: 69

14. Find the difference of 56 and 22.

The difference is [ ].

56
−22
34

Answer: 34

15. What is 584 increased by 43?

584 increased by 43 is [ ].

584
+ 43
627

Answer: 627

16. A new notebook computer with DVD player costs $1024. Derik Muller has $1233 in his checking account. How much will be left in his checking account after he buys the notebook computer?

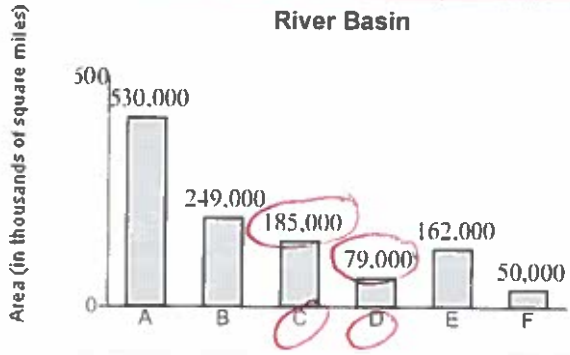
Derik will have $[ ] remaining in his checking account after he buys the notebook computer.

1233
−1024
209

Answer: 209

17. Find the total land area drained by the C and D sub-basins.

185000
+ 79000
264000

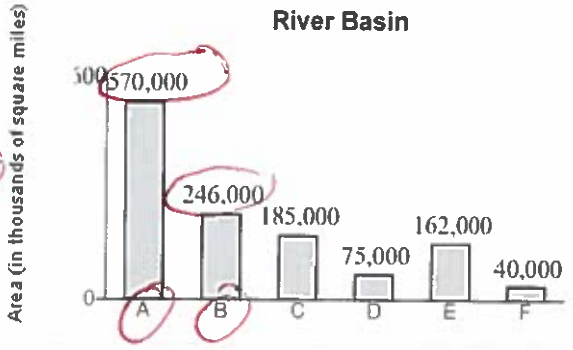


[ ] sq mi

Answer: 264,000

18. How many more square miles of land is drained by the A sub-basin than the B sub-basin?

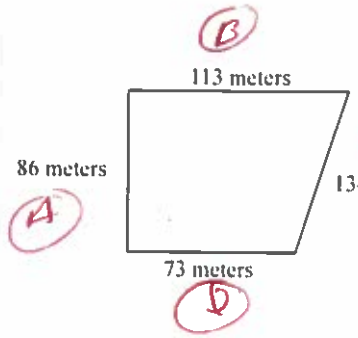
570000
− 246000
324000



[ ] sq mi

Answer: 324,000

19. Alexander is installing a pen for his dog. The pen will have the shape and dimensions of the figure shown to the right. How many meters of fencing are needed to enclose the the area shown?



$P = A + B + C + D$

$P = 86 + 113 + 134 + 73$

$P = 406$

86
113
134
+ 73
406

[ ] m

Answer: 406

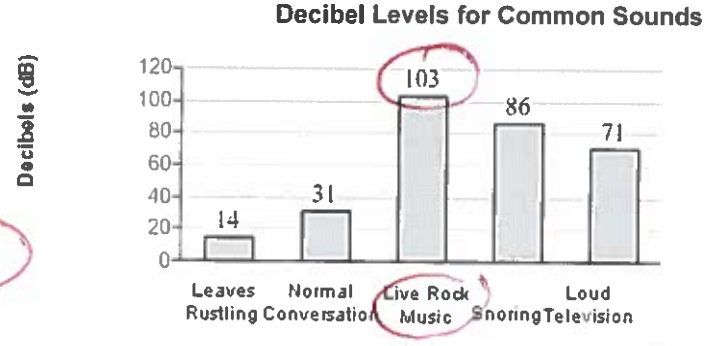
20. Evelyn Abrams is reading a 980-page book. If she has just finished reading page 433, how many more pages must she read to finish the book?

980
−433
547

[ ] pages

Answer: 547

21. What is the dB rating for live rock music?

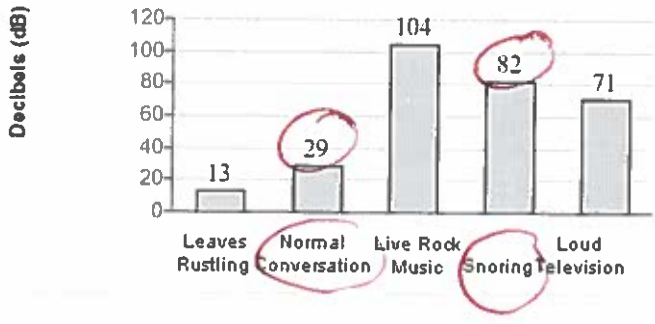


103

[ ] dB

Answer: 103

22. How much louder is the sound of snoring than normal conversation?



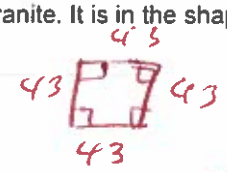
82
−29
53

[ ] dB

Answer: 53

23. A permanent game board is made of granite. It is in the shape of a square with side lengths of 43 ft. Find the perimeter of the square playing board.

The perimeter is _____ feet.



$P = 4N$
$P = 4(43)$
$P = 172$

$N = 43$

$43 \times 4 = 172$

Answer: 172

24. The table on the right shows the number of a particular store in ten states. What is the total number of stores located in the three states with the most stores?

A total of _____ stores are located in the three states with the most stores.

State	Number of Stores
Arizona	55
California	66
Florida	128
Georgia	83
Illinois	28
New York	34
Michigan	86
Minnesota	194
Ohio	41
Texas	87

$128 + 194 + 87 = 409$

Answer: 409

25. A particular state has 2037 miles of urban highways and 3828 miles of rural highways. Find the total highway mileage in the state.

The total highway mileage in the state is _____ miles.

$2037 + 3828 = 5865$

Answer: 5865

26. Round 274 to the nearest ten.

274 rounded to the nearest ten is _____.

$274 =$ since $4 < 5$ do not round up

$270 =$

Answer: 270

27. Round 185 to the nearest ten.

185 rounded to the nearest ten is _____.

$185 =$ since $5 \geq 5$ yes round up

$190 =$

Answer: 190

28. Round 1,888 to the nearest hundred.

The number 1,888 rounded to the nearest hundred is _____.

$1888 =$ since $8 \geq 5$ yes round up

$1900 =$

Answer: 1,900

29. Round 195 to the nearest ten.

195 rounded to the nearest ten is _____.

Answer: 200

195 = since 5 ≥ 5 yes round up
200 =

30. Round 86,348 to the nearest thousand.

86,348 rounded to the nearest thousand is _____.

Answer: 86,000

86348 = since 3 < 5 do not round up
86000 =

31. Estimate the perimeter of the rectangle by first rounding the length of each side to the nearest ten.

The estimated perimeter is _____ meters.

Answer: 160

69 → 70 = L round first
14 → 10 = W
P = 2L + 2W
P = 2(70) + 2(10)
P = 140 + 20
P = 160

32. Multiply.

$$\begin{array}{r} 83 \\ \times\ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 83 \\ \times\ 6 \\ \hline \end{array}$$

Answer: 498

83
× 6
498

33. Multiply.

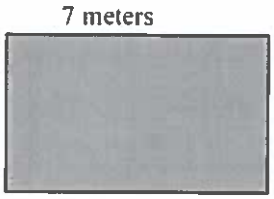
$$\begin{array}{r} 46 \\ \times\ 69 \\ \hline \end{array}$$

The product is _____.

Answer: 3174

46
× 69
414
276
3174

34. Find the area and the perimeter of the rectangle shown to the right.



The area of the rectangle is ____ (1) ____

The perimeter of the rectangle is ____ (2) ____

(1) ○ meters. ○ square meters. ○ cubic meters.

(2) ○ meters. ○ cubic meters. ○ square meters.

$A = lw$
$A = (7)(5)$
$A = 35$

$P = 2l + 2w$
$P = 2(7) + 2(5)$
$P = 14 + 10$
$P = 24$

Answers 35

(1) square meters.

24

(2) meters.

35. Estimate the product by rounding each factor to the nearest hundred.

694 × 164

694 × 164 ≈ ____

Answer: 140,000

$694 * 164 =$
$700 * 200 =$
$140{,}000 =$

$$\begin{array}{r} 700 \\ \times 200 \\ \hline 000 \\ 000 \\ \hline 1400 \\ \hline 140000 \end{array}$$

36. One triple fudge brownie contains 127 calories. How many calories are in 13 triple fudge brownies?

____ calories

$\frac{1}{127} = \frac{13}{N}$

$1(N) = 127(13)$ cross mult

$N = 1651$

Answer: 1651

$$\begin{array}{r} 127 \\ \times 13 \\ \hline 381 \\ 127 \\ \hline 1651 \end{array}$$

37. A plot of land measures 70 feet by 160 feet. Find its area.

The area of the rectangle is ____ (1) ____

(1) ○ cubic feet. ○ square feet. ○ feet.

$A = lw$
$A = (160)(70)$
$A = 11200$

$$\begin{array}{r} 160 \\ \times 70 \\ \hline 000 \\ 1120 \\ \hline 11200 \end{array}$$

Answers 11,200

(1) square feet.

38. One ounce of nuts contains 167 calories. How many calories are in 15 ounces of nuts?

[ ] calories

$\frac{1}{167} = \frac{15}{N}$

$1(N) = 167(15)$ cross mult

$N = 2505$

Answer: 2505

$167 \times 15 = 835 + 1670 = 2505$

39. A plant for a tea company has bagging machines capable of bagging 3000 bags of tea per minute. If the plant runs 24 hours a day, how many tea bags are produced in one day?

The company produces [ ] tea bags in one day of operation.

$(3000)(24 \text{ hours}) =$

$(3000)(24)(60^{\text{min}}) =$

$24 \times 60 = 1440$

$1440 \times 3000 = 4320000$

$4,320,000 =$

Answer: 4,320,000

40. Find the following quotient.

$22 \div 2$

$\frac{22}{2} =$

$11 =$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. $22 \div 2 =$ [ ] (Simplify your answer.)
- B. The answer is undefined.

Answer: A. $22 \div 2 =$ 11 (Simplify your answer.)

$2\overline{)22}$ → $-(2)$ → 2 → $-(2)$ → rem 0

41. Find the quotient.

$\frac{24}{4}$

$\frac{24}{4} =$

$6 =$

Select the correct choice below and fill in any answer boxes in your choice.

- A. $\frac{24}{4} =$ [ ]
- B. The answer is undefined.

Answer: A. $\frac{24}{4} =$ 6

$4\overline{)24}$ → $-(24)$ → 0 → rem

42. Find the following quotient.

$20 \div 4$

$\frac{20}{4} =$

$5 =$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. $20 \div 4 =$ [ ] (Simplify your answer.)
- B. The answer is undefined.

Answer: A. $20 \div 4 =$ 5 (Simplify your answer.)

$4\overline{)20}$ → $-(20)$ → 0 → rem

43. Divide the following and then check by multiplying.

$2\overline{)96}$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The quotient does not have a remainder. The quotient is _____.
- B. The quotient has a remainder not equal to 0. The quotient is _____ R _____.
- C. The quotient is undefined.

Answer: A. The quotient does not have a remainder. The quotient is **48**.

48
2 | 96
−(8)
16
−(16)
0 rem

44. Divide the following and then check by multiplying.

$6\overline{)159}$

$\frac{3}{6} = \frac{\div 3}{\div 3} = \frac{1}{2}$ → $26\frac{3}{6} =$ OR $26\frac{1}{2}$ OR

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The quotient does not have a remainder. The quotient is _____.
- B. The quotient has a remainder not equal to 0. The quotient is _____ R _____.
- C. The quotient is undefined.

Answer: B. The quotient has a remainder not equal to 0. The quotient is **26** R **3**.

26
6 | 159
−(12)
39
−(36)
3 rem

45. For their wedding, Ben and Jen paid $15 for each guest's dinner. The total bill was $2250. How many guests did they have at their wedding?

_____ guests

Answer: 150

150
15 | 2250
−(15)
75
−(75)
00

46. A truck hauls wheat to a storage granary. It carries a total of 6,390 bushels of wheat in 18 trips. How much does the truck haul each trip if each trip it hauls the same amount?

The truck hauls _____ bushels each trip.

Answer: 355

24
355
18 | 6390
−(54)
99
90
90

47. Find the average value of the following list of numbers.

10, 25, 43, 28, 14, 18

rewrite → $\frac{10+14+18+25+28+43}{6} =$

$\frac{138}{6} =$

The average value is _____.

Answer: 23

$23 =$

48. Find the value of the expression.

5^2

$5^2 =$ ____

Answer: 25

PEMDAS

$5^2 =$
$5 \cdot 5 =$
$25 =$

49. Evaluate.

4^4

$4^4 =$ ____

Answer: 256

PEMDAS

$4^4 =$
$4 \cdot 4 \cdot 4 \cdot 4 =$
$16 \cdot 4 \cdot 4 =$
$64 \cdot 4 =$
$256 =$

16 × 4 = 64

64 × 4 = 256

50. Simplify.

$15 + 9 \cdot 6$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. $15 + 9 \cdot 6 =$ ____
- B. The expression is undefined.

Answer: A. $15 + 9 \cdot 6 =$ 69

PEMDAS

$15 + 9 \cdot 6 =$
$15 + 54 =$
$69 =$

15 + 54 = 69

51. Simplify.

$10 \div 2 \cdot 5 + 6$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. $10 \div 2 \cdot 5 + 6 =$ ____
- B. The expression is undefined.

Answer: A. $10 \div 2 \cdot 5 + 6 =$ 31

PEMDAS

$10 \div 2 \cdot 5 + 6 =$
$5 \cdot 5 + 6 =$
$25 + 6 =$
$31 =$

25 + 6 = 31

52. Simplify.

$24 \div 3 - 3$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. $24 \div 3 - 3 =$ ____
- B. The expression is undefined.

Answer: A. $24 \div 3 - 3 =$ 5

PEMDAS

$24 \div 3 - 3 =$
$8 - 3 =$
$5 =$

53. Simplify.

$47 + \frac{9}{3}$

PEMDAS

$47 + \frac{9}{3}$

$47 + 3 =$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

47
+3
50

50 =

- A. $47 + \frac{9}{3} =$ _____
- B. The expression is undefined.

Answer: A. $47 + \frac{9}{3} =$ 50

54. Simplify.

$2 \cdot 4 + 4 \cdot 2$

PEMDAS

$2 \cdot 4 + 4 \cdot 2 =$

$8 + 4 \cdot 2 =$

$8 + 8 =$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

16 =

- A. $2 \cdot 4 + 4 \cdot 2 =$ _____
- B. The expression is undefined.

Answer: A. $2 \cdot 4 + 4 \cdot 2 =$ 16

55. Simplify.

$(2 + 6) \cdot (7 - 4)$

PEMDAS

$(2+6) \cdot (7-4) =$

$(8) \cdot (3) =$

$8 \cdot 3 =$

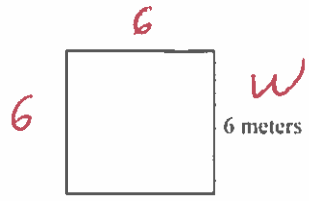
Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

24 =

- A. $(2 + 6) \cdot (7 - 4) =$ _____
- B. The expression is undefined.

Answer: A. $(2 + 6) \cdot (7 - 4) =$ 24

56. Find the area and perimeter of the square shown to the right.



6 = L

The area of the square is ____ (1) ____

The perimeter of the square is ____ (2) ____

(1) ○ meters. ○ square meters.

(2) ○ meters. ○ square meters.

$A = LW$
$A = (6)(6)$
$A = 36$
$P = 2L + 2W$
$P = 2(6) + 2(6)$
$P = 12 + 12$
$P = 24$

Answers 36

(1) square meters.

24

(2) meters.

57. Find the area and perimeter of the square shown to the right.

42 = L

The area of the square is ____ (1) ____

The perimeter of the square is ____ (2) ____

(1) ○ square miles. ○ miles.

(2) ○ miles. ○ square miles.

$A = LW$
$A = (42)(42)$
$A = 1764$
$P = 2L + 2W$
$P = 2(42) + 2(42)$
$P = 84 + 84$
$P = 168$

Answers 1764

(1) square miles.

168

(2) miles.

58. Evaluate the expression for z = 3.

PEMDAS

$4 + 5z$

$4 + 5z =$ ____

$4 + 5z =$
$4 + 5(3) =$
$4 + 15 =$
$19 =$

Answer: 19

59. Evaluate the expression for x = 4 and z = 2.

$3xz - 2x$

$3xz - 2x =$ ____

Answer: 16

PEMDAS

$3 \times z - 2x =$
$3(4)(2) - 2(4) =$
$3(8) - 2(4) =$
$24 - 2(4) =$
$24 - 8 =$
$16 =$

60. Evaluate the expression for x = 2, y = 3, and z = 4.

$z - x + y$

The answer is ____.

Answer: 5

PEMDAS

$z - x + y =$
$(4) - (2) + (3) =$
$4 - 2 + 3 =$
$2 + 3 =$
$5 =$

61. Evaluate the expression for x = 2 and z = 5.

$6x - z$

$6x - z =$ ____

Answer: 7

PEMDAS

$6x - z =$
$6(2) - (5) =$
$12 - 5 =$
$7 =$

62. Evaluate the following for x = 5 and y = 4.

$y^3 - 3x$

The answer is ____.

Answer: 49

PEMDAS

$y^3 - 3x =$
$(4)^3 - 3(5) =$
$(4)(4)(4) - 3(5) =$
$4(16) - 3(5) =$
$64 - 3(5) =$
$64 - 15 =$
$49 =$

$64 - 15 = 49$

63. Evaluate the following expression for x = 2, y = 2, and z = 1.

$\frac{7xy}{z}$

The answer is ____.

Answer: 28

PEMDAS

$\frac{7xy}{z} =$
$\frac{7(2)(2)}{(1)} =$
$\frac{7(4)}{1} =$
$\frac{28}{1} =$
$28 =$

64. Evaluate the expression for x = 2 and y = 6.

$\frac{2y - 6}{x}$

$\frac{2y - 6}{x} =$ ____

Answer: 3

PEMDAS

$\frac{2y - 6}{x} =$
$\frac{2(6) - 6}{(2)} =$
$\frac{12 - 6}{2} =$
$\frac{6}{2} =$
$3 =$

65. Evaluate the expression for x = 13, y = 4, and z = 3.

$\frac{x+2y}{z}$

PEMDAS

$\frac{x+2y}{z}$ = ____

Answer: 7

$\frac{x+2y}{z} =$

$\frac{(13)+2(4)}{3} =$

$\frac{13+8}{3} =$

$\frac{21}{3} =$

$7 =$

66. Evaluate the algebraic expression for the given value.

$x^2 - 3x + 4$, for x = 6

PEMDAS

When x = 6, $x^2 - 3x + 4$ = ____.
(Simplify your answer.)

Answer: 22

$x^2 - 3x + 4 =$

$(6)^2 - 3(6) + 4 =$

$(6)(6) - 3(6) + 4 =$

$36 - 3(6) + 4 =$

$36 - 18 + 4 =$

$18 + 4 =$

$22 =$

67. Decide whether the number is a solution of the equation.

Is 14 a solution of n − 11 = 3?

- ○ No
- ○ Yes

Answer: Yes

$n - 11 = 3$

$(14) - 11 = 3$

$14 - 11 = 3$

$3 = 3$

Good

YES

68. Decide whether the number is a solution of the equation.

Is 4 a solution of 29 = 70n?

- ○ Yes
- ○ No

Answer: No

$29 = 70n$

$29 = 70(4)$

$29 \neq 280$

NO

BAD

$\times \frac{70}{4}$

280

69. Determine whether 4 is a solution of the equation 7x + 5 = 30.

Is 4 a solution?

- ○ Yes
- ○ No

Answer: No

$7x + 5 = 30$

$7(4) + 5 = 30$

$28 + 5 = 30$

$33 \neq 30$

NO

BAD

70. Decide whether the number is a solution of the equation.

Is 19 a solution of $2(n - 12) = 14$?

- ○ No
- ○ Yes

Answer: Yes

$2(n-12)=14$
$2((19)-12)=14$
$2(19-12)=14$
$2(7)=14$
$14=14$
YES
Good

71. Decide whether the number is a solution of the equation.

Is 6 a solution of $3f = 24 - f$?

- ○ Yes
- ○ No

Answer: Yes

$3F=24-F$
$3(6)=24-(6)$
$18=24-6$
$18=18$
YES
Good

72. Determine which numbers in the set are solutions of the equation.

$n - 4 = 10$; {12, 14, 16}

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ○ **A.** _____ in the set {12, 14, 16} is a solution of the equation $n - 4 = 10$.
- ○ **B.** None of the numbers in the set are solutions of the equation

Answer: A. 14 in the set {12, 14, 16} is a solution of the equation $n - 4 = 10$.

$n=14$
$n-4=10$
$(14)-4=10$
$14-4=10$
$10=10$
Good

73. Determine which numbers in the set are solutions of the equation.

$4x - 5 = 2x + 21$; {5, 9, 13}

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ○ **A.** _____ in the set {5, 9, 13} is a solution of the equation $4x - 5 = 2x + 21$.
- ○ **B.** None of the numbers in the set are solutions of the equation.

Answer: A. 13 in the set {5, 9, 13} is a solution of the equation $4x - 5 = 2x + 21$.

$n=13$
$4x-5=2x+21$
$4(13)-5=2(13)+21$
$52-5=26+21$
$47=47$
Good

74. You are given the following equation: $3n + 2 = 17$. Which of the following is a solution to the equation?

Choose the correct answer below.

- A. $n = 0$
- B. $n = 17$
- C. $n = 5$
- D. $n = 3$

Answer: C. $n = 5$

$n = 5$

$3n + 2 = 17$
$3(5) + 2 = 17$
$15 + 2 = 17$
$17 = 17$
Good

75. Simplify.

$8 \cdot 4^2$

$8 \cdot 4^2 =$ ☐

Answer: 128

PEMDAS

$8 \cdot 4^2 =$
$8 \cdot (4)(4) =$
$8 \cdot (16) =$
$128 =$

$16 \times 8 = 128$

76. Simplify.

$6 + 7 \cdot 4 - 11$

$6 + 7 \cdot 4 - 11 =$ ☐

Answer: 23

PEMDAS

$6 + 7 \cdot 4 - 11 =$
$6 + 28 - 11 =$
$34 - 11 =$
$23 =$

$28 + 6 = 34$

77. Solve. Check your solution.

$x + 9 = 20$

The solution is $x =$ ☐.

Answer: 11

$x + 9 = 20$
$x + 9 - 9 = 20 - 9$
$x = 11$

Check
$x + 9 = 20$
$(11) + 9 = 20$
$11 + 9 = 20$
$20 = 20$ Good

78. Solve.

$7x = 14$

The solution is $x =$ ☐.

Answer: 2

$7x = 14$
$\frac{7x}{7} = \frac{14}{7}$
$x = 2$

Check
$7x = 14$
$7(2) = 14$
$14 = 14$ Good

79. Solve the following equation.

$6x - 6 = 0$

$x =$ [ ]

Answer: 1

$6x-6=0$

$6x-6+6=0+6$

$6x=6$

$\frac{6x}{6}=\frac{6}{6}$

$x=1$

Check

$6x-6=0$

$6(1)-6=0$

$6-6=0$

$0=0$ Good

80. Solve the equation.

$5n + 25 = 55$

$n =$ [ ]

Answer: 6

$5n+25=55$

$5n+25-25=55-25$

$5n=30$

$\frac{5n}{5}=\frac{30}{5}$

$n=6$

Check

$5n+25=55$

$5(6)+25=55$

$30+25=55$

$55=55$ Good

$30+25=55$

81. Write a fraction to represent the shaded region of the figure.

A fraction which represents the figure is [ ].

$\frac{3}{7}$

Answer: $\frac{3}{7}$

82. Represent the shaded part of the group of circles with
A. an improper fraction and
B. a mixed number.

A. The improper fraction which represents the shaded area of the figure group is [ ].

B. The mixed number which represents the shaded area of the figure group is [ ].

$\frac{7}{4}$

OK

$1\frac{3}{4}$

$4\overline{)7}$

$-(4)$

3

Answers $\frac{7}{4}$

$1\frac{3}{4}$

83. Represent the shaded part of the group of triangles with
A. an improper fraction and
B. a mixed number.

A. The improper fraction that represents the shaded area of the figure group is ____.

B. The mixed number that represents the shaded area of the figure group is ____.

Answers $\frac{7}{4}$

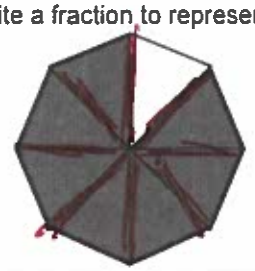
$1\frac{3}{4}$

84. Write a fraction to represent the shaded region of the figure.

The fraction which represents the shaded region is ____.

Answer: $\frac{11}{12}$

85. Write a fraction to represent the shaded part of the figure.



The fraction representing the shaded part is ____.

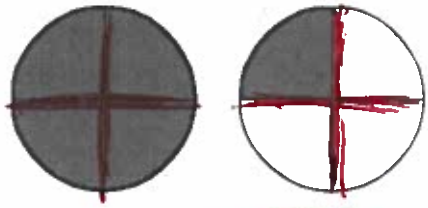
Answer: $\frac{7}{8}$

86. Write a fraction to represent the shaded region of the figure.

The fraction that represents the shaded region of this figure is ____.

Answer: $\frac{5}{9}$

87. Represent the shaded part of the group of figures with (a) an improper fraction and (b) a mixed number.



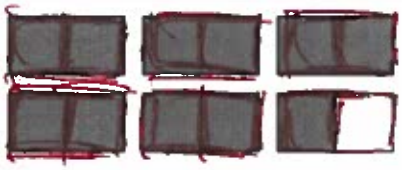
(a) Write the shaded area as an improper fraction.

(b) Write the shaded area as a mixed number.

Answers $\frac{5}{4}$

$1\frac{1}{4}$

88. Represent the shaded part of the group of figures with (a) an improper fraction and (b) a mixed number.



a. Write the shaded area as an improper fraction.

b. Write the shaded area as a mixed number.

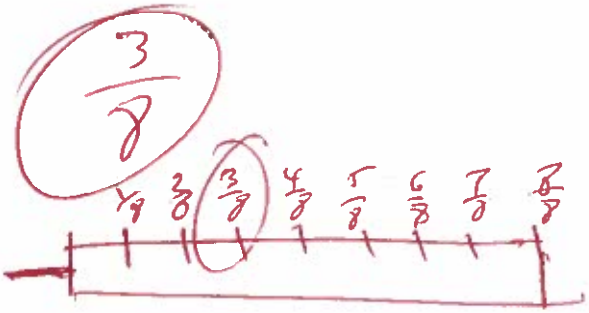
Answers $\frac{11}{2}$

$5\frac{1}{2}$

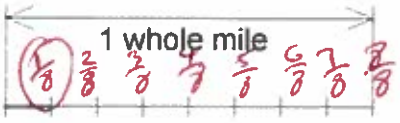
89. Write a fraction to represent the shaded part of the syringe.

The fraction represented by the shaded parts is _____.

Answer: $\frac{3}{8}$

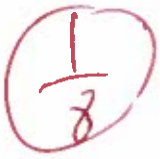


90. Write a fraction to represent the shaded part of the distance.



The fraction that represents the shaded part is _____.

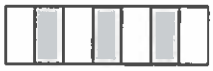
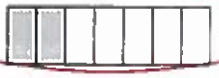
Answer: $\frac{1}{8}$

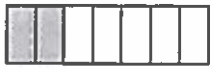


91. Each of the objects shown to the right is divided into equal sections and part of each object is shaded. The shaded part is a fraction of the whole object.

Which object represents the fraction $\frac{2}{7}$?

Choose the correct answer below.

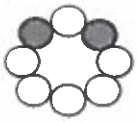
- A. 
- B. 
- C. 
- D. 
- E. None of the above.

Answer: C. 

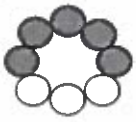
92. Each of the objects shown to the right is divided into equal sections and part of each object is shaded. The shaded part is a fraction of the whole object.

Which object represents the fraction $\frac{3}{8}$?

Choose the correct answer below.

A. 

B. 

C. 

D. 

E. None of the above.

Answer: D. 

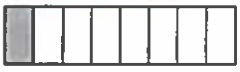
93. Each of the figures shown to the right is divided into equal sections, and part of each figure is shaded. The shaded part is a fraction of the whole figure.

Which figure represents the fraction $\frac{8}{8}$?

Choose the correct answer below.

A. 

B. 

C. 

D. 

E. None of the above.

Answer: B. 

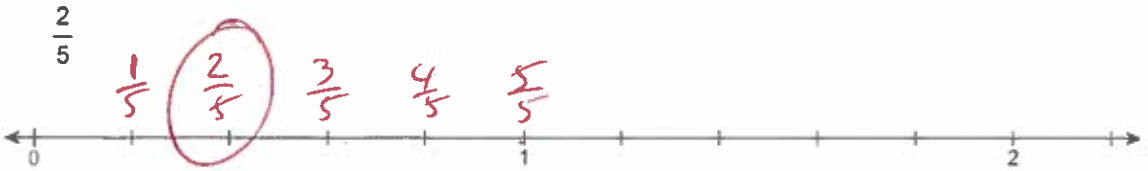
94. In an American Sign Language (A.S.L) class of 30 students, 29 are hearing impaired. What fraction of the students are hearing impaired?

The fraction of the students that are hearing impaired is _____.

Answer: $\frac{29}{30}$

95. Graph the fraction on a number line.

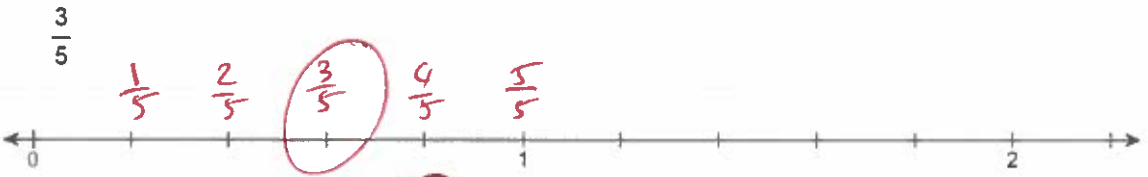
$\frac{2}{5}$



Answer:

96. Graph the fraction on a number line.

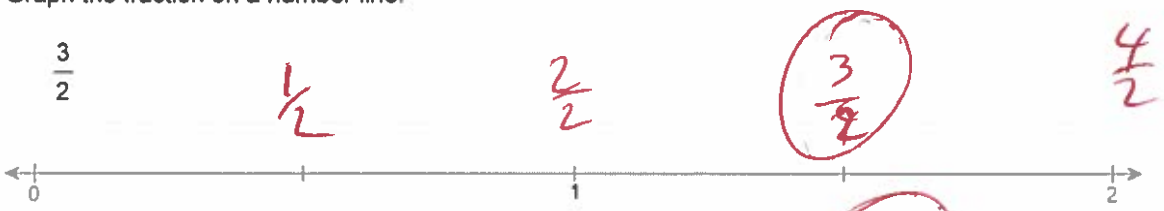
$\frac{3}{5}$



Answer:

97. Graph the fraction on a number line.

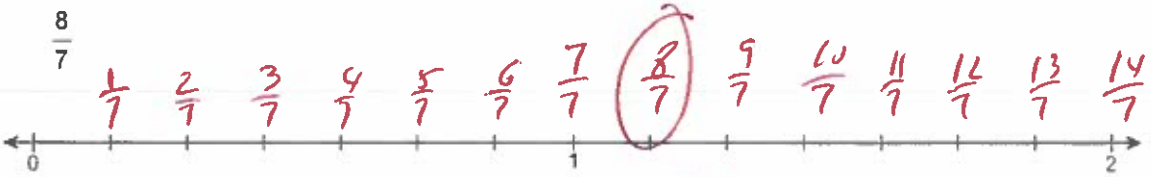
$\frac{3}{2}$



Answer:

98. Graph the fraction on a number line.

$\frac{8}{7}$



Answer:

99. Write the number 44 as a product of prime factors.

44 = ☐

Answer: $2^2 \cdot 11$

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, ...

2 | 44
2 | 22
11 | 11
1

$44 = 2 \cdot 2 \cdot 11$ OR $44 = 2^2 \cdot 11$

100. Find the prime factorization of the following number.

92

The prime factorization of 92 is ☐.

Answer: $2^2 \cdot 23$

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, ...

2 | 92
2 | 46
23 | 23
1

$92 = 2 \cdot 2 \cdot 23$ OR $92 = 2^2 \cdot 23$

101. Find the prime factorization of the following number.

9

The prime factorization of 9 is ☐.

Answer: 3^2

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, ...

3 | 9
3 | 3
1

$9 = 3 \cdot 3$ OR $9 = 3^2$

102. Find the prime factorization of the following number.

70

The prime factorization of 70 is ☐.

Answer: $5 \cdot 2 \cdot 7$

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, ...

2 | 70
5 | 35
7 | 7
1

$70 = 2 \cdot 5 \cdot 7$ OR $70 = 5 \cdot 2 \cdot 7$

103. Find the prime factorization of the number 85. Write any repeated factors using exponents.

The prime factorization is ☐.

Answer: $5 \cdot 17$

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, ...

5 | 85
17 | 17
1

$85 = 5 \cdot 17$ OR $85 = 17 \cdot 5$

104. Write the fraction in lowest terms.

$\frac{2}{8}$

Answer: $\frac{1}{4}$

$\frac{2}{8} =$ ☐

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, ...

2 | 8
2 | 4
2 | 2
1

$\frac{2}{8} = \frac{2}{2 \cdot 2 \cdot 2} = \frac{2 \cdot 1}{2 \cdot 2 \cdot 2} = \frac{1}{2 \cdot 2} = \frac{1}{4}$

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23 . . .

105. Write the fraction in lowest terms.

$\frac{42}{49}$

$\frac{42}{49} =$ ____

$\frac{42}{49} = \frac{2 \cdot 3 \cdot 7}{7 \cdot 7} = \frac{2 \cdot 3}{7} = \frac{6}{7}$

Answer: $\frac{6}{7}$

106. Add.

$\frac{1}{5} + \frac{2}{5}$

$\frac{1}{5} + \frac{2}{5} =$ ____ (Simplify your answer. Type an integer or a fraction.)

$\frac{1}{5} + \frac{2}{5} = \frac{1+2}{5} = \frac{3}{5}$

Answer: $\frac{3}{5}$

107. Add and simplify.

$\frac{1}{12} + \frac{7}{12}$

$\frac{1}{12} + \frac{7}{12} =$ ____ (Type an integer or a simplified fraction.)

$\frac{1}{12} + \frac{7}{12} = \frac{1+7}{12} = \frac{8}{12} = \frac{2 \cdot 2 \cdot 2}{2 \cdot 2 \cdot 3} = \frac{2}{3}$

Answer: $\frac{2}{3}$

108. Round the monetary amount to the nearest dollar.

$24.07

$24.07 rounded to the nearest dollar is $____

$24.07 → 0 < 5 do not round up

$24

Answer: 24

109. Add.

$6.3 + 2.1$

$6.3 + 2.1 =$ ____

$\begin{array}{r} 6.3 \\ +2.1 \\ \hline 8.4 \end{array}$ Line up decimals

Answer: 8.4

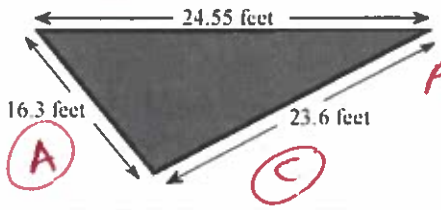
110. Add the following.

2.1 + 5.16

2.1 + 5.16 = [ ] (Type an integer or a decimal.)

Answer: 7.26

111. A landscape architect is planning a border for a flower garden shaped like a triangle. The sides of the garden measure 16.3 feet, 24.55 feet, and 23.6 feet. Find the amount of border material needed.

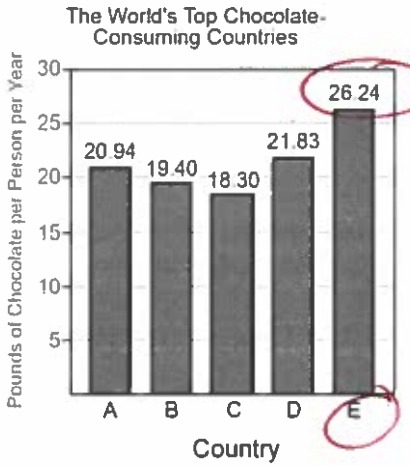


The amount of border material needed is [ ] feet.
(Type an integer or a decimal.)

Answer: 64.45

112. The bar graph shows the top five chocolate-consuming nations in the world. Use this graph to answer the following.

Which country has the greatest chocolate consumption per person?



Choose the correct answer below.

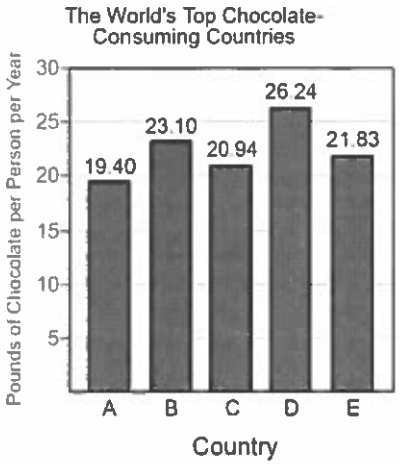
- (•) Country E
- ( ) Country D
- ( ) Country C
- ( ) Country B
- ( ) Country A

Answer: Country E

113.

The bar graph shows the top five chocolate-consuming nations in the world. Use this graph to answer the following.

Make a chart listing the countries and their corresponding chocolate consumptions in order from greatest to least.



Complete the chart below.

	Country	Pounds of Chocolate per Person
(1)	D	26.24
(2)	B	23.10
(3)	E	21.83
(4)	C	20.94
(5)	A	19.40

(1) ○ Country A ○ Country B ○ Country C ○ Country E ○ Country D

(2) ○ Country B ○ Country E ○ Country A ○ Country D ○ Country C

(3) ○ Country C ○ Country A ○ Country B ○ Country D ○ Country E

(4) ○ Country A ○ Country B ○ Country E ○ Country C ○ Country D

(5) ○ Country E ○ Country B ○ Country D ○ Country A ○ Country C

Answers (1) Country D

26.24

(2) Country B

23.10

(3) Country E

21.83

(4) Country C

20.94

(5) Country A

19.40

114. Use the values of the coins given below. Write the value of the group of coins shown to the right. To do so, it is usually easiest to start with the coin(s) of greatest value and end with the coin(s) of least value.

Penny	Nickel	Dime	Quarter
			
$0.01	$0.05	$0.10	$0.25

.25 x 4 = 1.00 ; .10 x 4 = .40 ; .05 x 2 = .10

1.00 + .40 + .10 = 1.50

The total value of the group is $ _____.

Answer: 1.50

115. Use the values of the coins given to the right. Name the different ways that coins can have a value of $0.17 given that you may use no more than 10 coins.

$0.17

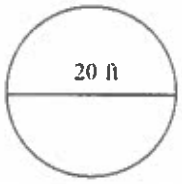
Penny	Nickel	Dime	Quarter
			
$0.01	$0.05	$0.10	$0.25

Choose the correct answer below. Select all that apply.

- [x] A. 3 nickels and 2 pennies
- [ ] B. 3 nickels and 6 pennies
- [x] C. 1 dime and 7 pennies
- [x] D. 2 nickels and 7 pennies
- [ ] E. 1 dime, 2 nickels and 3 pennies
- [x] F. 1 dime, 1 nickel and 2 pennies

Answer: A. 3 nickels and 2 pennies, C. 1 dime and 7 pennies, D. 2 nickels and 7 pennies, F. 1 dime, 1 nickel and 2 pennies

116. Find the circumference of the circle in terms of π. Then use the approximation 3.14 for π and approximate the circumference.



D = 20

C = πD

C = π(20)

C = 20π

a. Find the circumference of the circle in terms of π.

The exact circumference is _____ ft.

3.14 x 20 = 62.80

C = πD

C = 3.14D

C = 3.14(20)

C = 62.80

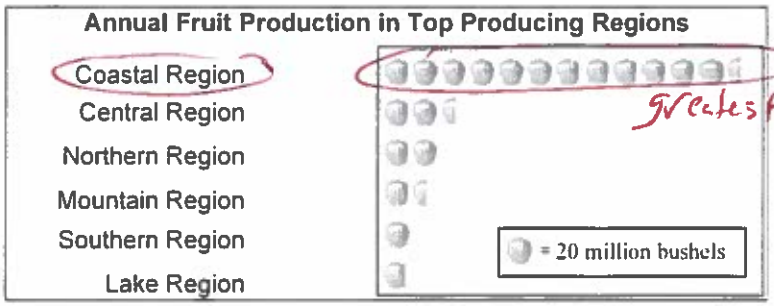
b. Find the circumference of the circle using 3.14 as an approximation for π.

The approximate circumference is _____ ft. (Round to the nearest hundredth as needed.)

Answers 20π

62.80

117. The pictograph shows last year's fruit production by the top fruit-producing regions. Which region produced the greatest quantity of fruit?



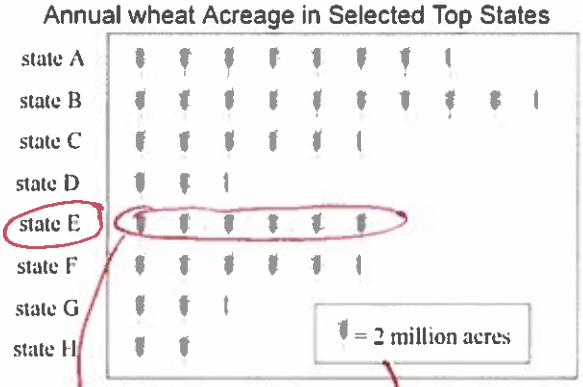
Which region produced the greatest quantity of fruit?

- A. The mountain region
- B. The southern region
- C. The lake region
- D. The northern region
- E. The central region
- F. The coastal region

Answer: F. The coastal region

118. The pictograph on the right shows the number of acres devoted to wheat production in the selected states.

Approximate the number of acres of wheat planted in state E.



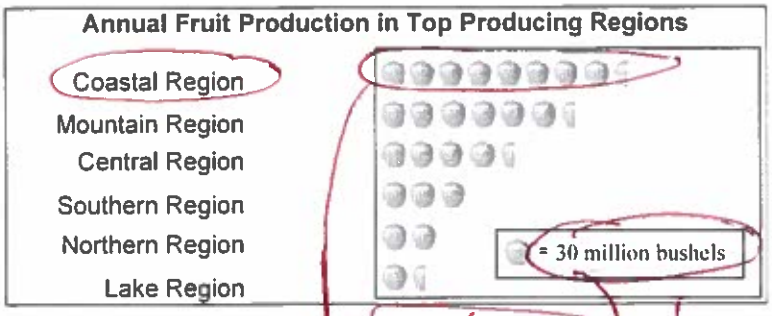
The number of acres of wheat planted in state E is approximately [ ] million acres.
(Type an integer or a decimal.)

Answer: 12

$6(2) =$

$12 =$

119. The pictograph shows last year's fruit production by the top fruit-producing regions. Which region produces about 255 million bushels of fruit?

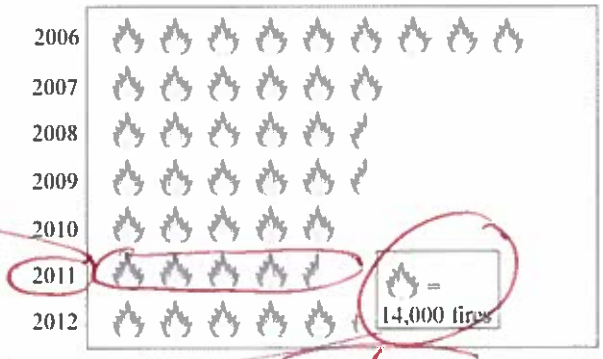


Choose the correct answer below.

- A. The northern region
- B. The central region
- C. The lake region
- D. The southern region
- E. The mountain region
- F. The coastal region

Answer: F. The coastal region

120. The pictograph on the right shows the average number of wildfires in a country between 2006 and 2012.

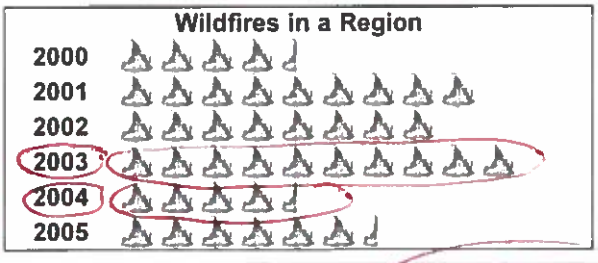


Approximate the number of wildfires in 2011.

The number of wildfires in the year 2011 is approximately ____.
(Type an integer or a decimal.)

Answer: 63,000

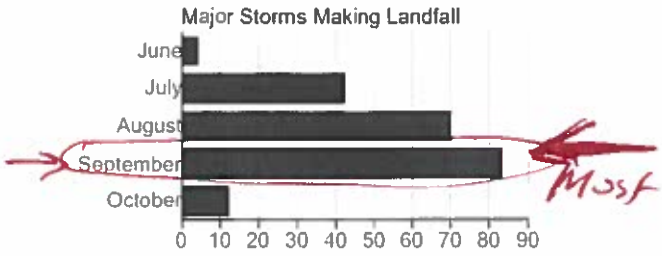
121. The pictograph shows the annual number of wildfires in a region between 2000 and 2005. What was the amount of decrease in wildfires from 2003 to 2004?



The number of wildfires in the region decreased by about ____ from 2003 to 2004.

Answer: 77,000

122. The bar graph shows the number of major storms, by month, that have made landfall in a region between 1851 and 2005. In which month did the most major storms make landfall in the region?

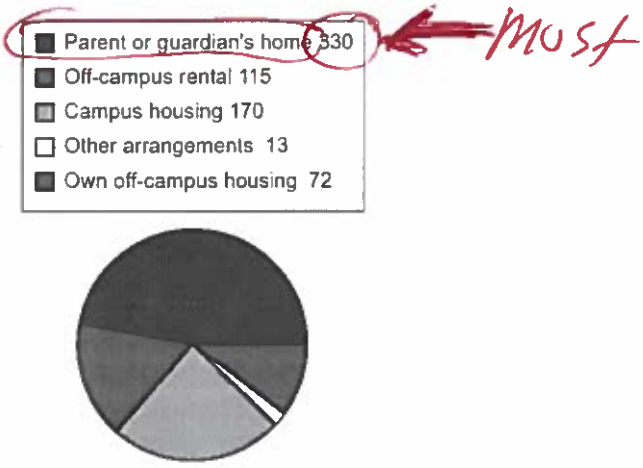


In which month did the most major storms make landfall in the region?

- ○ October
- ○ August
- ○ July
- ○ September
- ○ June
- ○ Cannot be determined

Answer: September

123. The circle graph is a result of surveying 700 college students. They were asked where they live while attending college. Use this graph to find where most of these college students live.



Choose the correct answer below.

- ○ A. Own off-campus housing
- ○ B. Off-campus rental
- ○ C. Parent or guardian's home
- ○ D. Campus housing
- ○ E. Other arrangements

Answer: C. Parent or guardian's home

124. Find the square root.

$\sqrt{4}$ = ☐

$\sqrt{4}$

Answer: 2

$\sqrt{4} =$

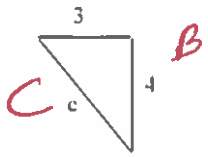
$2 =$

$2^2 =$

$2 \cdot 2 =$

4

125. Find the length of the third side of the right triangle.



$A^2+B^2=C^2$

$(3)^2+(4)^2=C^2$

$9+16=C^2$

$25=C^2$

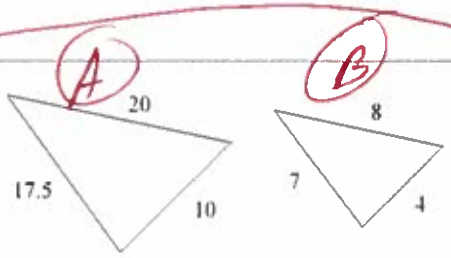
$\sqrt{25}=\sqrt{C^2}$

$5=C$

The length of the third side is _____.

Answer: 5

126. Find the ratio of the corresponding sides of the given similar triangles.



$\frac{A}{B}=$

$\frac{20}{8}=\frac{2\cdot2\cdot5}{2\cdot2\cdot2}=$

$\frac{5}{2}=$

The ratio of the corresponding sides of the first triangle to the second triangle is _____.

(Type the ratio as a simplified fraction.)

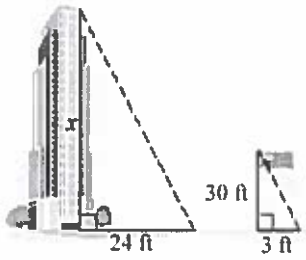
Answer: $\frac{5}{2}$

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, ...

20 | 2
10 | 2
5 | 5
1

8 | 2
4 | 2
2 | 2
1

127. A triangle is formed by the building's height and shadow. Another triangle is formed by the flagpole's height and shadow. Using the following diagram, find the height of the building.



The height of the building is _____ feet.

Answer: 240

$\frac{x}{24}=\frac{30}{3}=$

$x(3)=24(30)$ Cross Multiply

$3x=720$

$\frac{3x}{3}=\frac{720}{3}$

$x=$

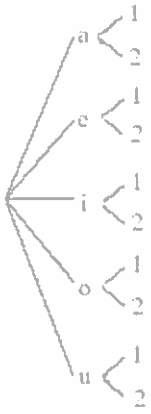
1
24
x 30
00
72
720

240
3 | 720
(6)
12
(12)
0
0
0

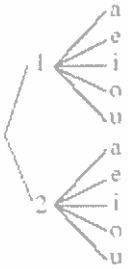
128. Draw a tree diagram for choosing a vowel, (a, e, i, o, u) and then a number (1 or 2). Use the diagram to find the number of possible outcomes.

○ A.

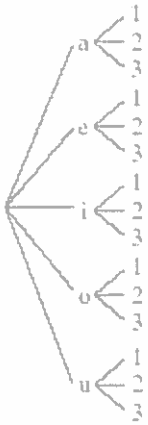
○ B.



○ C.

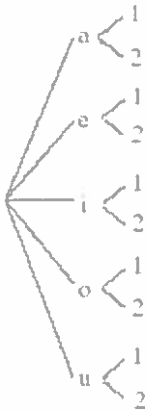


○ D.



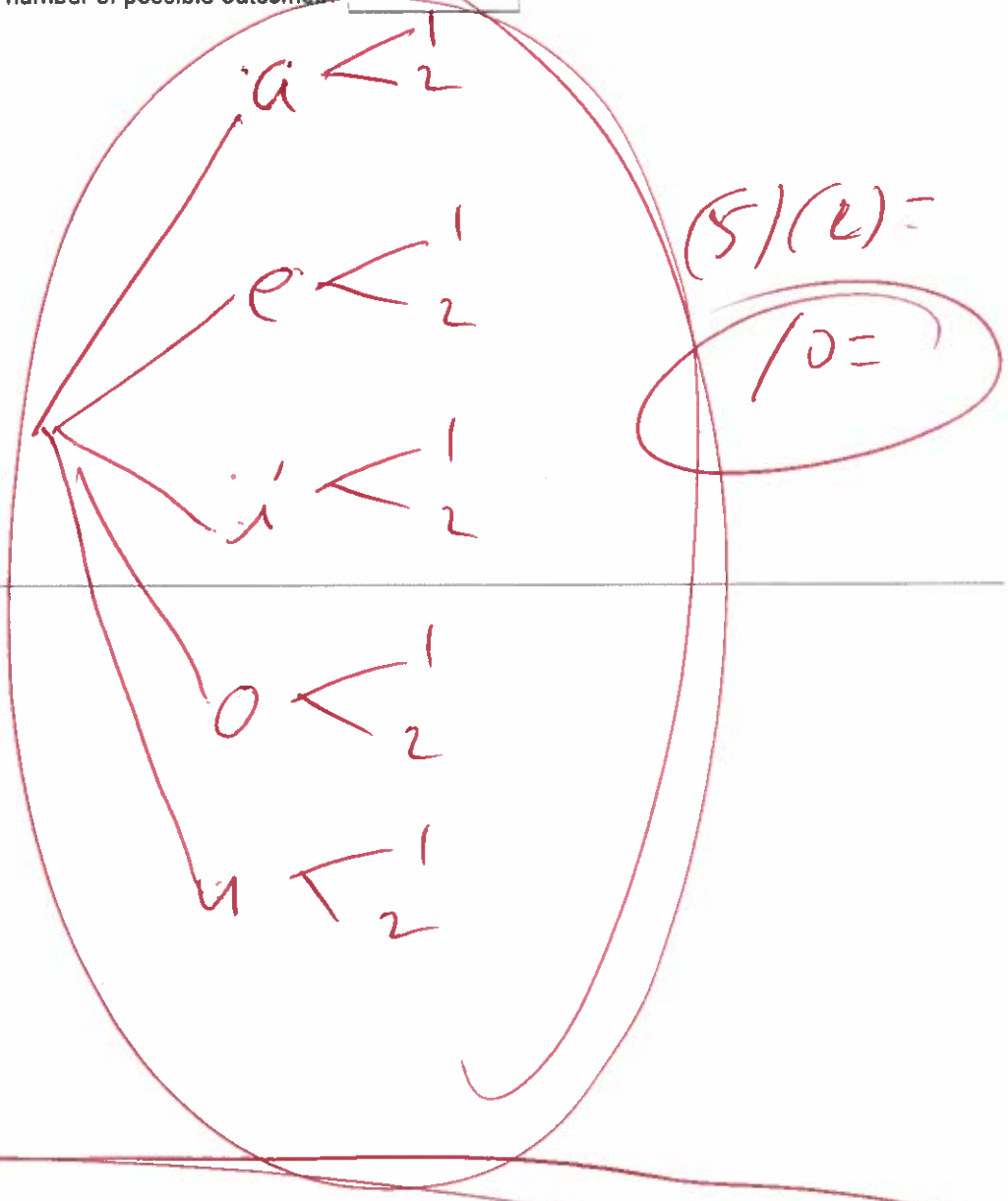
Based on the tree, what is the number of possible outcomes?

Answers



B.

10

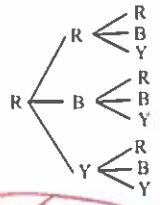


129. Draw a tree diagram for spinning Spinner A 3 times. Use the diagram to find the number of possible outcomes.

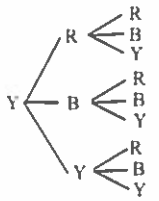
Spinner A

Choose the correct tree diagram below.

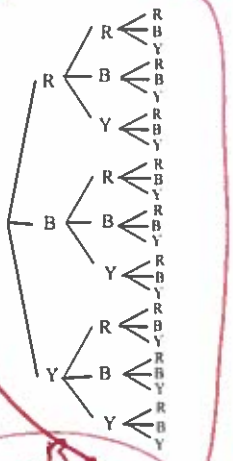
○ A.



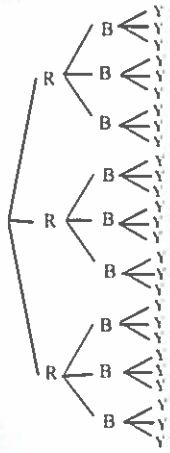
○ B.



✓ C.

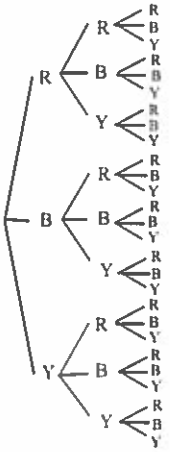


○ D.



Based on the tree, what is the number of possible outcomes?

Answers



C.

27

130. A marble is selected at random from a jar containing 6 red marbles, 2 yellow marbles, and 4 green marbles.

What is the probability that the marble is red?

The probability that the marble is red is ____. (Type an integer or a simplified fraction.)

Answer: $\frac{1}{2}$

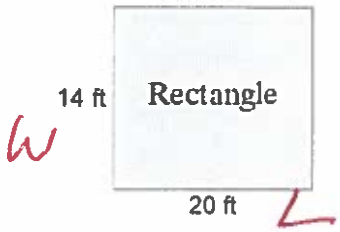
$$\frac{\text{red}}{\text{red + yellow + green}} = \frac{6}{12} = \frac{2 \cdot 3}{2 \cdot 2 \cdot 3} = \frac{1}{2}$$

$$\frac{6}{6+2+4} =$$

Primes 2, 3, 5, 7, 11, 13, 17, 19, 23, ...

2 | 6 | 2 | 12
3 | 3 | 2 | 6
1 | | 3 | 3
| | | 1

131. Find the perimeter of the following figure.



W L

$P = 2L + 2W$
$P = 2(20) + 2(14)$
$P = 40 + 28$
$P = 68$

$\begin{array}{r} 40 \\ +28 \\ \hline 68 \end{array}$

Perimeter = _____ (1) _____

(1) ○ ft
○ sq. ft

Answers 68

(1) ft

132. Find the perimeter of the following figure.

W L

$P = 2L + 2W$
$P = 2(35) + 2(25)$
$P = 70 + 50$
$P = 120$

$\begin{array}{r} 70 \\ +50 \\ \hline 120 \end{array}$

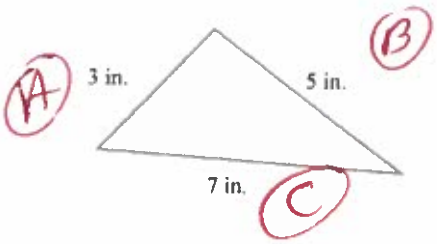
Perimeter = _____ (1) _____

(1) ○ sq. cm
○ cm

Answers 120

(1) cm

133. Find the perimeter of the following figure.



$P = A + B + C$
$P = 3 + 5 + 7$
$P = 8 + 7$
$P = 15$

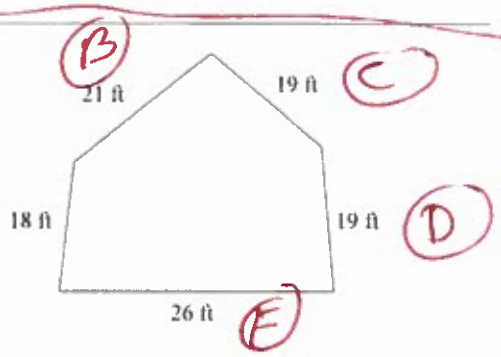
The perimeter is ____ (1) ____

(1) ○ sq. in.
○ in.

Answers 15

(1) in.

134. Find the perimeter of the figure shown to the right.



$P = A + B + C + D + E$
$P = 18 + 21 + 19 + 19 + 26$
$P = 39 + 19 + 19 + 26$
$P = 58 + 19 + 26$
$P = 77 + 26$
$P = 103$

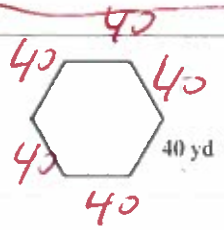
Perimeter = ____ (1) ____

(1) ○ ft.
○ sq. ft.

Answers 103

(1) ft.

135. Find the perimeter of the regular polygon shown to the right.



$P = 6N$
$P = 6(40)$
$P = 240$
$N = 40$

Perimeter = ____ (1) ____

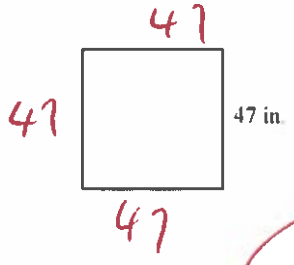
(1) ○ sq yd
○ yd

Answers 240

(1) yd

$40 \times 6 = 240$

136. Find the perimeter of the regular polygon shown to the right.



$P = 4N$
$P = 4(47)$
$P = 188$

47 × 4 = 188

$N = 47$

Perimeter = [ ] (1) [ ]

(1) ○ sq in.
○ in.

Answers 188

(1) in.

A B C D E

137. A polygon has sides of length 4 feet, 2 feet, 1 feet, 6 feet, and 3 feet. Find its perimeter.

$P = A + B + C + D + E$
$P = 4 + 2 + 1 + 6 + 3$
$P = 6 + 1 + 6 + 3$
$P = 7 + 6 + 3$
$P = 13 + 3$
$P = 16$

Perimeter = [ ] (1) [ ]

(1) ○ ft.
○ sq. ft

Answers 16

(1) ft.

138. If a playing field is 45 yards wide and 120 yards long, what is the perimeter?

W L

$P = 2L + 2W$
$P = 2(120) + 2(45)$
$P = 240 + 90$
$P = 330$

120 × 2 = 240
45 × 2 = 90
240 + 90 = 330

Perimeter = [ ] (1) [ ]

(1) ○ yd
○ sq. yd

Answers 330

(1) yd

139. A metal strip is being installed around a workbench that is 8 feet long and 4 feet wide. Find how much stripping is needed.

The amount of metal stripping needed to be installed around the workbench is _____ (1) _____

(1) ○ sq. ft.
○ ft.

Answers 24

(1) ft.

$P = 2L + 2W$

$P = 2(8) + 2(4)$

$P = 16 + 8$

$P = 24$

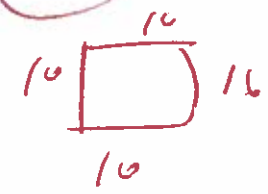
140. Find the perimeter of the top of a square compact case if the length of one side is 16 inches.

The perimeter is _____ (1) _____

(1) ○ square inches.
○ cubic inches.
○ inches.

Answers 64

(1) inches.



$N = 16$

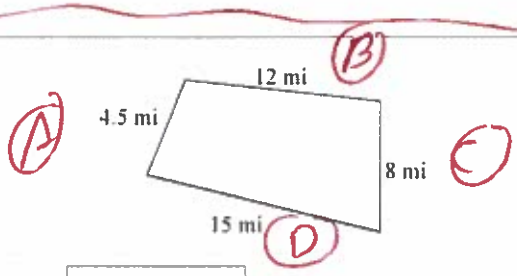
$P = 4N$

$P = 4(16)$

$P = 64$

16
× 4
64

141. Find the distance around the given figure.



The distance around the figure is _____ (1) _____

(1) ○ mi.
○ sq mi.

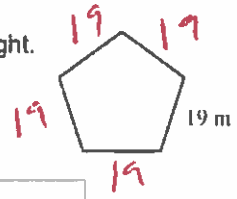
Answers 39.5

(1) mi.

$P = 4.5 + 12 + 8 + 15$

14.5
12.0
8.0
15.0
39.5

142. Find the distance around the regular pentagon shown to the right.



The distance around the figure is [ ] (1) [ ]

(1) ○ m.
○ sq m.

Answers 95

(1) m.

N = 19
P = 5N
P = 5(19)
P = 95

19
× 5
95

143. A drapery panel measured 6 ft by 7 ft. Find how many square feet of material are needed for three panels.

The material needed for three panels is [ ] sq ft.

Answer: 126

W L
A = LW
A = (7)(6)
A = 42 only one panel
3 panels
42
× 3
126

144. Convert the measurement indicated.

48 in to feet

48 in = [ ] ft

Answer: 4

48 in to feet
48/12 = divide
4 feet =

4
12 ⟌ 48
(48)
0

145. Convert the measurement as indicated.

18 yd to feet

18 yd = [ ] ft

Answer: 54

18 yd to feet
18(3) = Multiply
54 feet =

146. Insert <, >, or = in the space between the paired numbers to make the statement true.

8 __ 10

8 (1) [ ] 10

(1) ○ >
○ <
○ =

Answer: (1) <

8 < 10

147. Use the commutative and associative properties to simplify the expression.

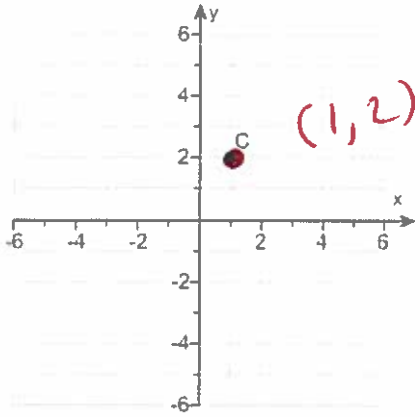
(14 + a) + 14

(14 + a) + 14 = ☐

Answer: a + 28

(14+a)+14 =
14+a+14 =
a+14+14 =
a+28 =

148. Find the x- and y-coordinates of the point C.



(1,2)

The coordinates of C are ☐.
(Type an ordered pair.)

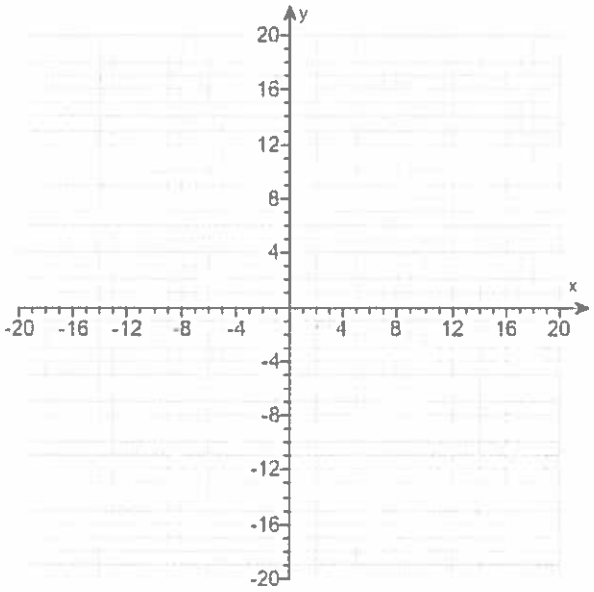
(1, 2)
1 right, 2 up

Answer: (1,2)

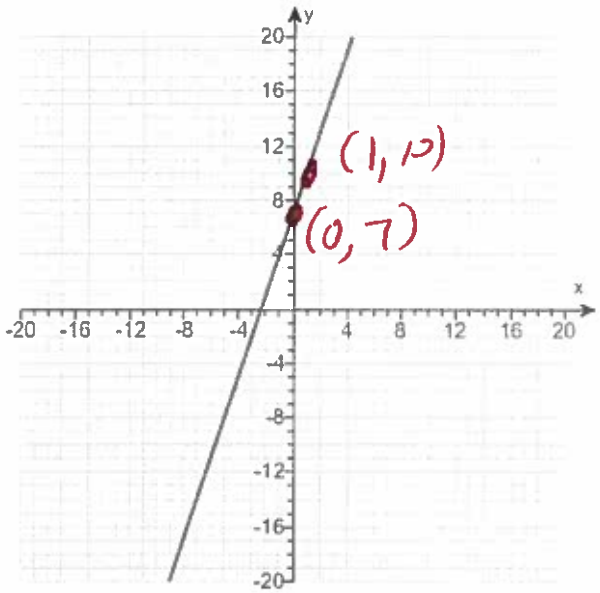
149. Graph the equation.

$y = 3x + 7$

Use the graphing tool to graph the line.



Answer:



$y = 3(0) + 7$

$y = 0 + 7$

$y = 7$

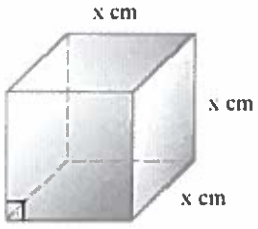
$y = 3(1) + 7$

$y = 3 + 7$

$y = 10$

x	y
0	7
1	10

150. The function $V(x) = x^3$ may be used to find the volume of a cube with side length x. Find the volume of a cube whose side is 6 centimeters.



$V(x) = x^3$

$V(6) = (6)^3$

$V(6) = (6)(6)(6)$

$V(6) = 36(6)$

3

36

$\times \quad 6$

216

The volume is [ ] cubic centimeters. (Type an integer or a decimal.)

$V(6) = 216$

Answer: 216