1. The radius of a circle is 10 m. Find its area *to the nearest whole number*.

$$\boxed{A = 314 \text{ m}^2}$$

2. The diameter of a circle is 24 cm. Find its area *to the nearest whole number*.

$$\boxed{A = 452 \text{ cm}^2}$$

3. The diameter of a circle is 32 cm. Find its area *to the nearest whole number*.

$$\boxed{A = 804 \text{ cm}^2}$$

4. The diameter of a circle is 3 in. Find its area *to the nearest hundredth*.

$$\boxed{A = 7.07 \text{ in}^2}$$

5. The diameter of a circle is 17 ft. Find its area *to the nearest whole number*.

$$\boxed{A = 227 \text{ ft}^2}$$

6. The area of a circle is 4π ft². What is the circumference, in feet? Express your answer in terms of π.

$$\boxed{C = 4\pi \text{ ft}}$$

7. The circumference of a circle is 20π m. What is the area, in square meters? Express your answer in terms of π.

$$\boxed{A = 100\pi \text{ m}^2}$$

8. The area of a circle is 16π ft². What is the circumference, in feet? Express your answer in terms of π.

$$\boxed{C = 8\pi \text{ ft}}$$

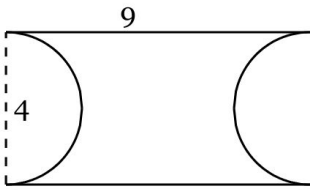
9. The circumference of a circle is 13π in. What is the area, in square inches? Express your answer in terms of π.

$$\boxed{A = 42.25\pi \text{ in}^2}$$

10. The circumference of a circle is 25π in. What is the area, in square inches? Express your answer in terms of π.

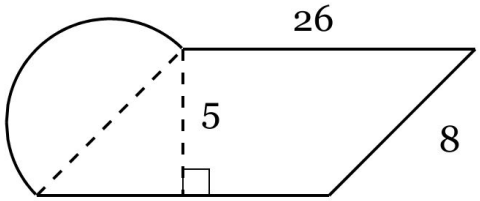
$$A = 156.25\pi \text{ in}^2$$

11. Find the Area of the figure below, composed of a rectangle with two semicircles removed. *Round to the nearest tenths place*.



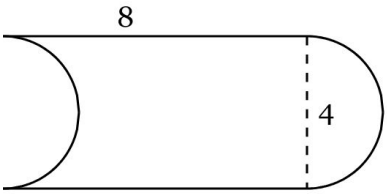
23.4

12. Find the Area of the figure below, composed of a parallelogram and one semicircle. *Rounded to the nearest tenths place*



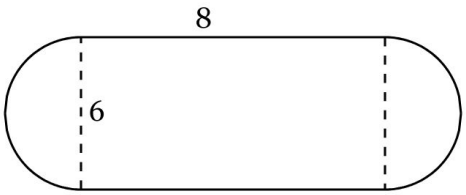
155.1

13. Find the Area of the figure below, composed of a rectangle and one semicircle, with another semicircle removed. *Round to the nearest tenths place*.



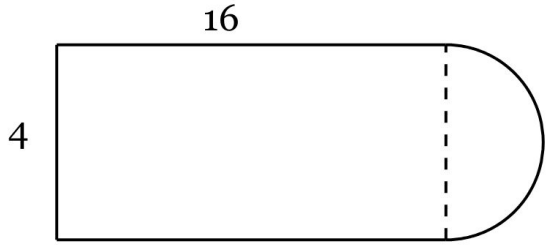
32

14. Find the Area of the figure below, composed of a rectangle and two semicircles. *Round to the nearest tenths place*.



76.3

15. Find the Area of the figure below, composed of a rectangle and a semicircle. *Round to the nearest tenths place*.



70.3

16. Find the median and mean of the data set below:

$$28, 22, 23, 41, 41$$

$\text{Median} = 28$

$\text{Mean} = 31$

17. Find the median and mean of the data set below:

$$46, 49, 0, 29, 2, 39$$

$\text{Median} = 34$

$\text{Mean} = 27.5$

18. Find the median and mean of the data set below:

$$38, 48, 22, 20, 22, 12$$

$\text{Median} = 22$

$\text{Mean} = 27$

19. Find the median and mean of the data set below:

$$12, 43, 21, 25, 9, 18, 19$$

$\text{Median} = 19$

$\text{Mean} = 21$

20. Find the median and mean of the data set below:

$$39, 43, 25, 4, 19, 23$$

$\text{Median} = 24$

$\text{Mean} = 25.5$

21. What is the value of the expression $3w + 7$ when $w = 3$?

$\boxed{16}$

22. What is the value of the expression $8z^2 - 10z - 6$ when $z = 3$?

$\boxed{36}$

23. What is the value of the expression $10y + 2z$ when $y = 9$ and $z = 10$?

$\boxed{110}$

24. What is the value of the expression $5y + 4$ when $y = 5$?

$\boxed{29}$

25. What is the value of the expression $x^2 + 6x + 3$ when $x = 7$?

$\boxed{94}$

26. Which expression is equivalent to $b + 4b + 9$?

$\boxed{\text{A. } 9 + 5b}$ B. $b + 13$

C. $14b$ D. $-4b$

27. The width of a rectangle measures $(2u + 3v)$ centimeters, and its length measures $(2u - 7v)$ centimeters. Which expression represents the perimeter, in centimeters, of the rectangle?

A. $8u - 8$ B. $8u - 14v + 3$

$\boxed{\text{C. } -8v + 8u}$ D. $-4 + 4u$

28. A triangle has side lengths of $(8h + 3k)$ centimeters, $(7h + 6m)$ centimeters, and $(5m + k)$ centimeters. Which expression represents the perimeter, in centimeters, of the triangle?

$\boxed{\text{A. } 15h + 4k + 11m}$

B. $11hk + 6km + 13hm$

C. $20hm + 10km$

D. $7m + 15h + 8k$

29. A triangle has side lengths of $(2s + 3)$ centimeters, $(10s + 4)$ centimeters, and $(10t - 5)$ centimeters. Which expression represents the perimeter, in centimeters, of the triangle?

A. $5t + 5s + 14$

B. $2 + 10t + 12s$

C. $7 + 12s + 5t$

D. $5t + 19s$

30. Which expression is equivalent to $-3x + 5 - 2x - 2$?

A. $-5x + 7$

B. $-5x + 3$

C. $2x - 4$

D. $-x + 3$

31. Which expression is equivalent to $2.9s - 6.8 + 6.7s + 8.5$?

A. $-3.8s + 1.7$

B. $-3.8s - 15.3$

C. $1.7 + 9.6s$

D. $9.6s - 15.3$

32. The width of a rectangle measures $(9.9m + 6.9)$ centimeters, and its length measures $(4.6m + 5.1)$ centimeters. Which expression represents the perimeter, in centimeters, of the rectangle?

A. $9.7 + 16.8m$

B. $24 + 29m$

C. $19.4 + 33.6m$

D. $14.5m + 12$

33. A triangle has side lengths of $(2.3p - 3.5)$ centimeters, $(2.5p + 6.8)$ centimeters, and $(7.3q - 2.8)$ centimeters. Which expression represents the perimeter, in centimeters, of the triangle?

A. $4.5q + 8.1p$

B. $0.5 + 7.3q + 4.8p$

C. $-1.2p + 9.3 + 4.5q$

D. $4.5q + 3.3 + 4.8p$

34. Which expression is equivalent to $-0.83p + p + 0.55$?

A. $0.72p$

B. $-0.38p$

C. $0.55 + 0.17p$

D. $-0.83p + 1.55$

35. Which expression is equivalent to $w - 0.55w + 0.7w$?

A. $w + 0.15$

B. $2.25w$

C. $1 + 0.15w$

D. $1.15w$

36. Write an equivalent expression by distributing the "$-$" sign outside the parentheses:

$$-(3s - 6.7)$$

$-3s + 6.7$

37. Write an equivalent expression by distributing the "−" sign outside the parentheses:

$$-(-5n + 8.6p) + 5$$

$\boxed{5n - 8.6p + 5}$

38. Write an equivalent expression by distributing the "−" sign outside the parentheses:

$$-k - (-9.3m + 0.3)$$

$\boxed{-k + 9.3m - 0.3}$

39. Write an equivalent expression by distributing the "−" sign outside the parentheses:

$$-(4.2c + 10d - 2)$$

$\boxed{-4.2c - 10d + 2}$

40. Write an equivalent expression by distributing the "−" sign outside the parentheses:

$$0.6x - (2y - 1.7)$$

$\boxed{0.6x - 2y + 1.7}$

41. Rewrite in simplest terms: $x - 9(7x + 2)$

$\boxed{-62x - 18}$

42. Rewrite in simplest terms:
$7(-5s + 6) + 8(6s - 1)$

$\boxed{13s + 34}$

43. Rewrite in simplest terms:
$-7(-6w + 8w - 7) - 7w$

$\boxed{-21w + 49}$

44. Rewrite in simplest terms: $-2(10f - 10) - 10f$

$\boxed{-30f + 20}$

45. Rewrite in simplest terms:
$-5(7d + 7f) + 2f - 9(-f + 6d)$

$\boxed{-89d - 24f}$

46. Which expression is equivalent to the expression below?

$$6(7t) + 3t$$

A. $25t$ B. $42t + 7t^2$

C. $10t + 6$ $\boxed{\text{D. } 45t}$

47. Which expression is equivalent to the expression below?

$$7y - 6z + y + y + y + y$$

A. $-3y$ **B. $11y - 6z$**

C. $5y$ D. $3y - 6z$

48. Which expression is equivalent to the expression below?

$$q + q + q + q + q$$

A. q^5 B. $5 + q$ **C. $5q$** D. $\frac{q}{5}$

49. Which expression is equivalent to the expression below?

$$9(5r + 3) - 6r$$

A. $9(5r + 3 - 6r)$ B. $20r + 12$

C. $39r + 27$ D. $51r + 3$

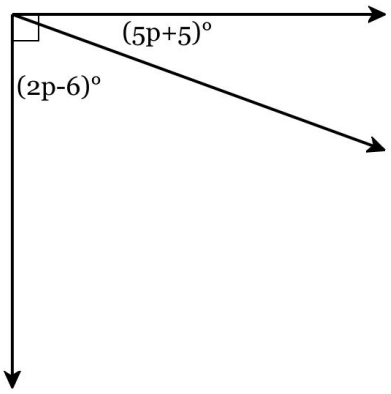
50. Which expression is equivalent to the expression below?

$$k + k + k + m + m + m + m$$

A. 7 **B. $3k + 4m$**

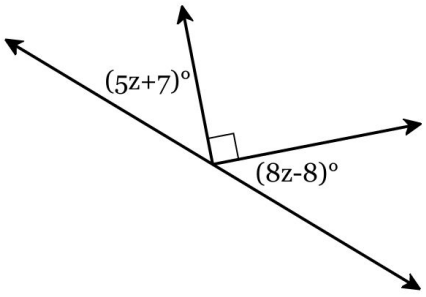
C. k^3m^4 D. $7 + k + m$

51. Solve for the value of p.



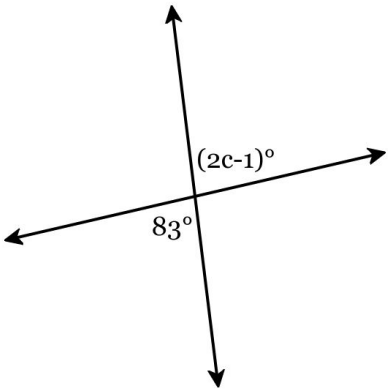
$p = 13$

52. Solve for the value of z.



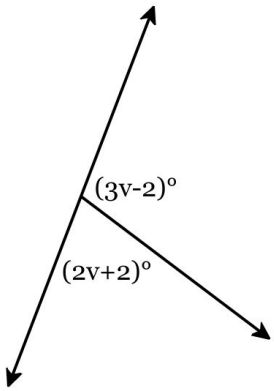
$z = 7$

53. Solve for the value of c.



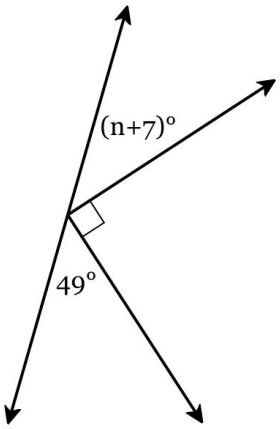
$\boxed{c = 42}$

54. Solve for the value of v.



$\boxed{v = 36}$

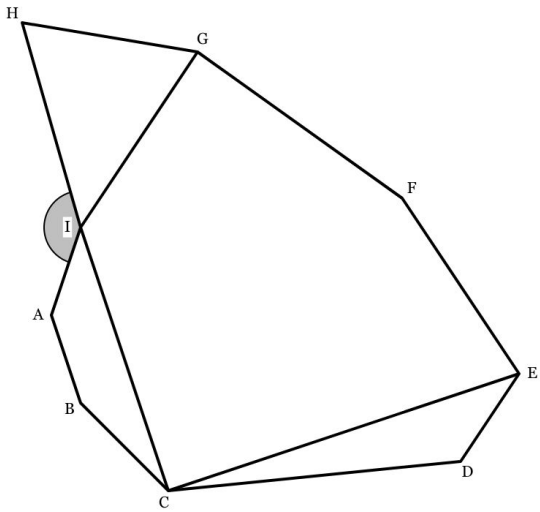
55. Solve for the value of n.



$\boxed{n = 34}$

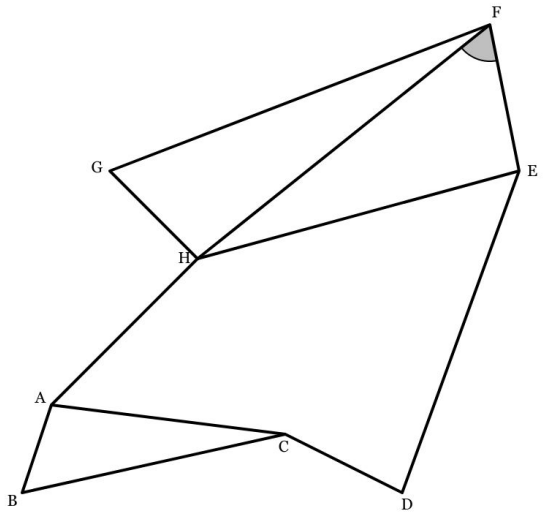
56. Identify $\angle HIA$ by by marking it with an arc on the diagram.

Correct Answer: Outline $\angle HIA$



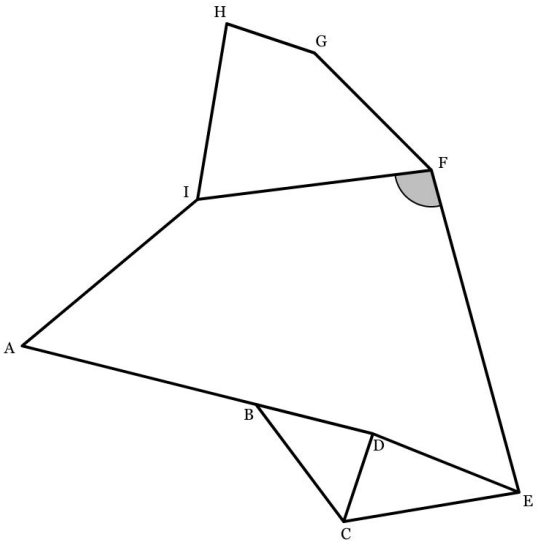
57. Identify $\angle EFH$ by by marking it with an arc on the diagram.

Correct Answer: Outline $\angle EFH$



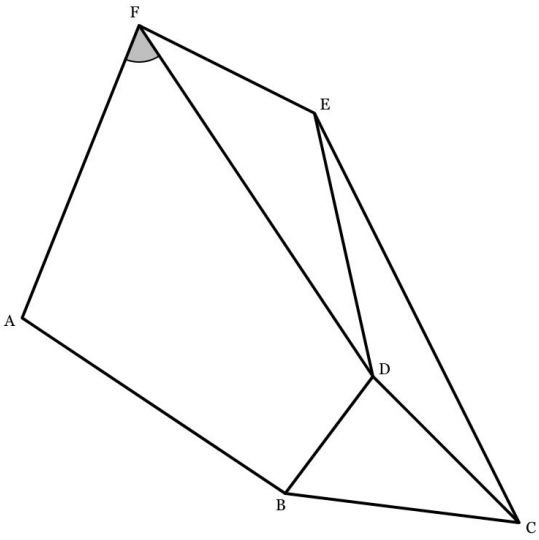
58. Identify $\angle EFI$ by by marking it with an arc on the diagram.

Correct Answer: Outline $\angle EFI$



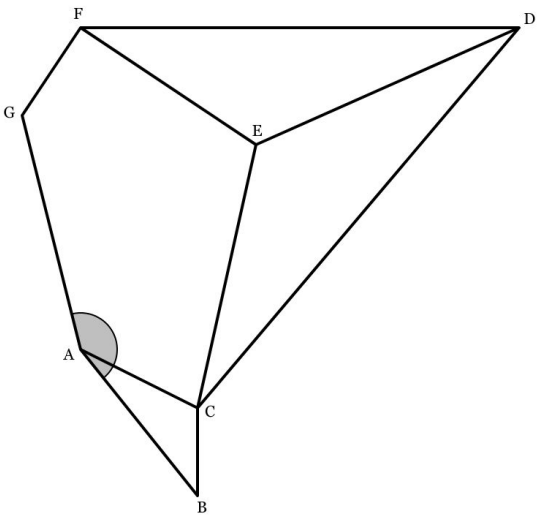
59. Identify $\angle AFD$ by by marking it with an arc on the diagram.

Correct Answer: Outline $\angle AFD$



60. Identify $\angle GAB$ by by marking it with an arc on the diagram.

Correct Answer: Outline $\angle GAB$



61. Use multiplication to expand the expression below. Then compute.

$$8^3$$

$$\boxed{8 \times 8 \times 8 = 512}$$

62. Use an exponent to condense the expression below. Then compute.

$$6 \times 6$$

$$\boxed{6^2 = 36}$$

63. Use multiplication to expand the expression below. Then compute.

$$3^5$$

$$\boxed{3 \times 3 \times 3 \times 3 \times 3 = 243}$$

64. Use an exponent to condense the expression below. Then compute.

$$5 \times 5 \times 5 \times 5 \times 5 \times 5$$

$$\boxed{5^6 = 15625}$$

65. Use an exponent to condense the expression below. Then compute.

$$10 \times 10 \times 10 \times 10 \times 10$$

$$\boxed{10^5 = 100000}$$

66. Evaluate.

$$-(3)^1$$

$$\boxed{-3}$$

67. Evaluate.

$$(-4)^1$$

$$\boxed{-4}$$

68. Evaluate.

$$-1^3$$

$$\boxed{-1}$$

69. Evaluate.

$$-(-8)^1$$

$$\boxed{8}$$

70. Evaluate.

$$-(-9)^1$$

$$\boxed{9}$$

71. Identify the coefficient in the expression below.

$$11 + p$$

$$\boxed{1}$$

72. How many terms are written in the expression below?

$$3p - 4a + 12 + 5r$$

$\boxed{4}$

73. Identify the variable in the expression below.

$$6z + 7$$

$\boxed{z}$

74. Identify the constant term in the expression below.

$$12t + 7$$

$\boxed{7}$

75. Identify the variable in the expression below.

$$9s + 1$$

$\boxed{s}$

76. Ryan has a toy car collection. He keeps 96 of the toy cars on his wall, which is 24% of his entire collection. What is the total number of toy cars in Ryan's collection?

$\boxed{400}$

77. Adriel's family took a road trip to Niagara Falls. Adriel fell asleep after they had travelled 680 miles. If the total length of the trip was 1000 miles, what percentage of the total trip had they travelled when Adriel fell asleep?

$\boxed{68}$

78. Madelyn has a mask collection of 400 masks. She keeps 56% of the masks on her wall. How many masks does she keep on her wall?

$\boxed{224}$

79. Charlotte's family took a road trip to Niagara Falls. Charlotte fell asleep 37% of the way through the trip. If Charlotte fell asleep after they had travelled 148 miles, what was the total length of the trip?

$\boxed{400}$

80. Leah's family took a road trip to the Grand Canyon. Leah fell asleep 26% of the way through the trip. If Leah fell asleep after they had travelled 78 miles, what was the total length of the trip?

300

81. At Francisco's store, the cost of eight pounds of rice is $\$28.44$. At Hakeem's store, the cost of three pounds of the same rice is $\$10.73$. Compare prices by finding a pair of common values (same number of pounds of rice or same price). Round your answers to the nearest cent if necessary.

One possible solution:
At Francisco's store, 1 pound of rice costs $\$3.56$. At Hakeem's store, 1 pound of rice costs $\$3.58$.
Francisco's store has the better price.

82. At Mamadou's store, the cost of six boxes of cereal is $\$18.08$. At Claire's store, the cost of ten boxes of the same cereal is $\$29.23$. Compare prices by finding a pair of common values (same number of cereal boxes or same price). Round your answers to the nearest cent if necessary.

One possible solution:
At Mamadou's store, 1 box of cereal costs $\$3.01$. At Claire's store, 1 box of cereal costs $\$2.92$. **Claire's** store has the better price.

83. At Ella's store, the cost of nine bottles of shampoo is $\$61.63$. At Taylor's store, the cost of six bottles of the same shampoo is $\$40.55$. Compare prices by finding a pair of common values (same number of shampoo bottles or same price). Round your answers to the nearest cent if necessary.

One possible solution:
At Ella's store, 1 bottle of shampoo costs $\$6.85$. At Taylor's store, 1 bottle of shampoo costs $\$6.76$.
Taylor's store has the better price.

84. At Hawa 's store, the cost of seven pounds of beans is $\$13.78$. At Salma's store, the cost of ten pounds of the same beans is $\$19.59$. Compare prices by finding a pair of common values (same number of pounds of beans or same price). Round your answers to the nearest cent if necessary.

One possible solution:
At Hawa 's store, 1 pound of beans costs $\$1.97$. At Salma's store, 1 pound of beans costs $\$1.96$. **Salma's** store has the better price.

85. At Caleb's store, the cost of seven tubes of tooth paste is $\$24.26$. At Logan's store, the cost of nine tubes of the same tooth paste is $\$31.37$. Compare prices by finding a pair of common values (same number of tooth paste tubes or same price). Round your answers to the nearest cent if necessary.

One possible solution:
At Caleb's store, 1 tube of tooth paste costs $\$3.47$. At Logan's store, 1 tube of tooth paste costs $\$3.49$.
Caleb's store has the better price.

86. There are 20 lollipops and 10 candy bars for a gift bag $(20 : 10$ ratio$)$. Find two simplified ratios.

All possible answers:

$10:5, 4:2, 2:1.$

87. There are 40 dogs and 60 cats at a pet daycare $(40 : 60$ ratio$)$. Find two simplified ratios.

All possible answers:

$20:30, 10:15, 8:12, 4:6, 2:3.$

88. There are 42 apples and 6 bananas for a fruit basket $(42 : 6$ ratio$)$. Find two simplified ratios.

All possible answers:

$21:3, 14:2, 7:1.$

89. There are 42 apples and 56 bananas for a fruit basket $(42 : 56$ ratio$)$. Find two simplified ratios.

All possible answers:

$21:28, 6:8, 3:4.$

90. There are 16 lollipops and 32 candy bars for a gift bag $(16 : 32$ ratio$)$. Find two simplified ratios.

All possible answers:

$8:16, 4:8, 2:4, 1:2.$

91. Chase drove 216 miles in 8 hours. If he continued at the same rate, how far would he travel in 11 hours?

297 miles

92. Morgan drove 160 miles in 8 hours. If she continued at the same rate, how long would it take to travel 200 miles?

10 hours

93. One week, Aaliyah earned $\$217.00$ at her job when she worked for 14 hours. If she is paid the same hourly wage, how many hours would she have to work the next week to earn $\$279.00$?

18 hours

94. Carter's car used 14 gallons to travel 616 miles. How far can he travel on 16 gallons?

704 miles

95. Meena bought 15 fish sticks for $\$34.50$. If Meena spent $\$46.00$, how many fish sticks did she buy?

20 fish sticks

96. Jace filled the gas tank of his car with 13 gallons of gas. If gas costs $\$2.00$/gallon and he drove 312 miles, how many miles could he travel on $\$1$?

12 miles per dollar

97. Ian's school is holding a bake sale. They sell cookies for $3.00 each. If they sell 81 cookies in 3 hours, how much money do they make per hour?

$81.00 earned per hour

98. At Gianna's school, a group of students organized a car wash to raise money for a local charity. The students got paid $8.75 for every car they washed. In 5 hours, they washed 30 cars. At that rate, how much money did they earn each hour?

$52.50 earned per hour

99. At the grocery store, Suav bought 2 bags of oranges for $9.28. Each bag contains 8 individual oranges. What is the price per orange?

$0.58 per orange

100. Nolan filled the gas tank of his car with 16 gallons of gas. If gas costs $2.00/gallon and he drove 352 miles, how many miles could he travel on $1?

11 miles per dollar

101. Caleb went shopping for a new video game because of a sale. The price on the tag was $23, but Caleb paid $13.80 before tax. Find the percent discount.

40%

102. Malika was out at a restaurant for dinner when the bill came. Her dinner came to $32. After adding in a tip, before tax, she paid $42.56. Find the percent tip.

33%

103. Xavier went shopping for a new camera. The listed price of the camera was $38, but the price with tax came to $39.14. Find the percent sales tax.

3%

104. One year, the population of a city was $393{,}000$. Several years later it was $428{,}370$. Find the percent increase.

$\boxed{9\%}$

105. One year, the population of a city was $123{,}000$. Several years later it was $99{,}630$. Find the percent decrease.

$\boxed{19\%}$

106. Simplify the expression below using order of operations.

$$\frac{6^1}{3 - (-1)^2} - (-10)$$

$\boxed{13}$

107. Simplify the expression below using order of operations.

$$((-4)^2 \times (-4)) - (-5) + 2^3$$

$\boxed{-51}$

108. Simplify the expression below using order of operations.

$$-9^2 + 5 \times (-6)^2 - 6$$

$\boxed{93}$

109. Simplify the expression below using order of operations.

$$5 \times (-1)^3 - (-4) + (-7)$$

$\boxed{-8}$

110. Simplify the expression below using order of operations.

$$6 + ((-5) \times 4^{1}) - 4^{3}$$

$\boxed{-78}$

111. Look at the expression below. Do not solve. State if the answer would be positive or negative and explain why.

$$-7 \div -14 \div -5 \div 19 \times 14 \div 18$$

The answer would be negative because the problem involves only multiplication and division and there are an odd number of negatives.

112. Look at the expression below. Do not solve. State if the answer would be positive or negative and explain why.

$$-6 \times 4 \div -7 \div 17 \times 10$$

The answer would be positive because the problem involves only multiplication and division and there are an even number of negatives.

113. Look at the expression below. Do not solve. State if the answer would be positive or negative and explain why.

$$16 \times -7 \times 4 \times 3 \div -20 \times 11$$

The answer would be positive because the problem involves only multiplication and division and there are an even number of negatives.

114. Look at the expression below. Do not solve. State if the answer would be positive or negative and explain why.

$$-4 \div 8 \div -13 \times 18 \times 9$$

The answer would be positive because the problem involves only multiplication and division and there are an even number of negatives.

115. Look at the expression below. Do not solve. State if the answer would be positive or negative and explain why.

$$-16 \div 4 \div 9 \times 9$$

The answer would be negative because the problem involves only multiplication and division and there are an odd number of negatives.