

Number Sense: Add, Subtract, Multiply or Divide without a Calculator

• Integers

1. $-54 + 35$

4. $623 - 432$

2. $-18 - (-30)$

5. $8 * 23$

3. $15(-4)$

6. $882 \div 14$

• Decimals

7. $43.21 + 16.8$

10. $6.4 * 3.2$

8. $16.3 - 9.11$

11. $25.6 \div 8$

9. $2.3 * 0.6$

12. $0.84 \div 0.6$

• Fractions

13. $\frac{2}{9} * \frac{3}{4}$

16. $1\frac{2}{9} - \frac{4}{9}$

14. $\frac{5}{9} \div 5$

17. $\frac{3}{2} - \frac{2}{3}$

15. $\frac{3}{4} + \frac{5}{12}$

18. $1\frac{1}{2} + \frac{3}{4}$

Fractions, Decimals, and Percentages

Write each as a decimal. Use repeating decimals when necessary.

1. $\frac{1}{4}$

2. $\frac{3}{5}$

3. $\frac{5}{8}$

4. $2\frac{3}{5}$

Write each as fraction. Reduce if necessary.

5. 2.2

6. 0.6

7. 0.08

8. 0.27

Write each as a decimal.

9. 90 %

10. 30 %

11. 9%

12. 115. %

Write each as a percentage.

13. 0.452

14. 0.16

15. 0.05

16. 4.78

Write as a fraction. Reduce if necessary.

17. 25%

18. 5%

19. 58%

20. 120%

Find the Greatest Common Factor (GCF) of each.

1. 39, 6

2. 24, 28

3. 10, 40

4. $18v, 30uv$

Evaluate each expression using order of operations.

5. $12 + 3 \div 3$

6. $3 + 2 * 4^2$

7. $4 + 6 * 10 - 2$

8. $25 * (4 + 5)$

9. $(7 - 3) \div 2$

10. $4 * 6 \div 3$

11. $12 - 3 + 1$

12. $125 \div 5^2$

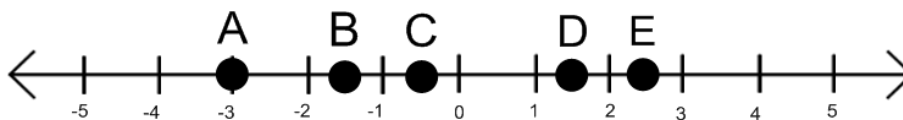
13. $7 * 6 + 5 * 4$

Identify the point on the number line that matches each number.

14. -0.5

15. 2.5

16. -3

Compare each set of numbers. Write $>$, $<$, $=$.

17. $\frac{5}{12}$ $\frac{3}{4}$

18. $\frac{4}{20}$ 20%

19. 0.75 $\frac{5}{6}$

Complete the table to the right to create ordered pairs for the function.

1. $y = 5x + 3$

x	y
-2	
-1	
0	
1	
2	

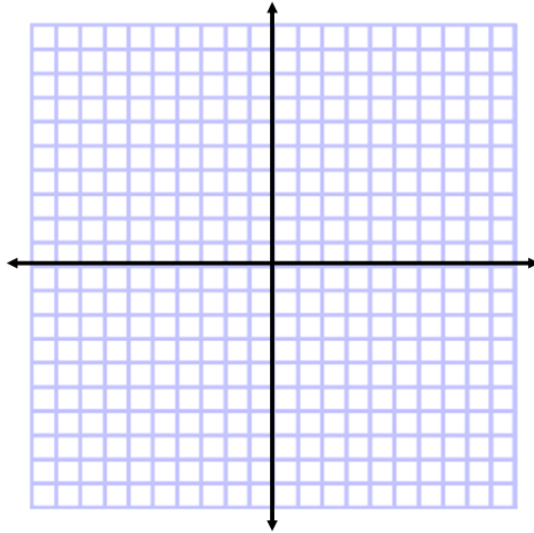
Graph each ordered pair on the graph provided.

2. A (-3, -4)

3. B (2, 0)

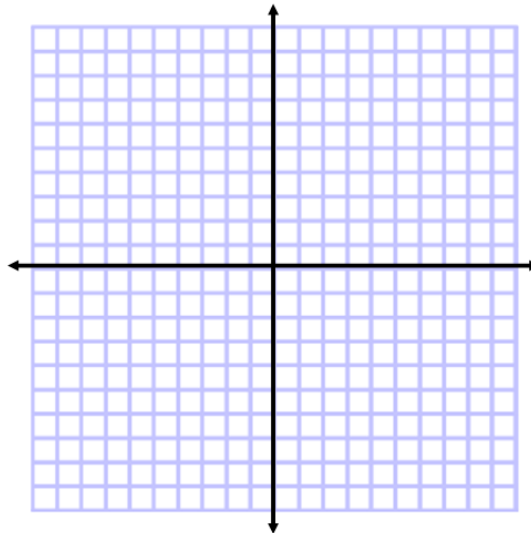
4. C (5, -6)

5. D (0, -7)



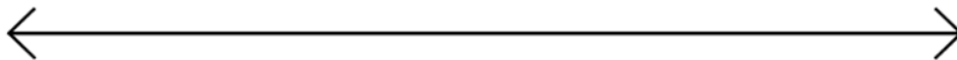
Graph the linear function on the graph provided.

6. $y = 2x + 1$

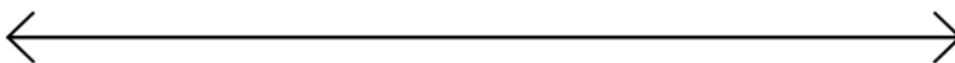


Graph each inequality.

7. $b \geq -11$



8. $x < 3$



Variable Expressions

Match each term with the correct definition.

- 1. constant
- 2. expression
- 3. order of operations
- 4. variable

- A. a mathematical phrase that contains operations, numbers, and/ or variables
- B. a mathematical statement that two expressions are equivalent
- C. a process for evaluating expressions
- D. a symbol used to represent a quantity that can change
- E. a value that does not change

Evaluate each expression for the given value of the variable.

5. $2x + 3$ for $x = 7$

6. $3n - 5$ for $n = 7$

7. $13 - 4a$ for $a = 2$

Evaluate each expression for $a = 4$, $b = 2$, and $c = 5$.

8. $b + c$

9. $\frac{a}{b}$

10. ab

Write an algebraic expression for each verbal expression. Then evaluate the algebraic expression for the given value of y .

	Algebraic	$y = 9$	$y = 6$
11. y reduced by 4			
12. The quotient of y and 3			
13. 5 more than y			
14. The sum of y and 2			

Give two ways to write each algebraic expression in words.

15. $x + 8$

16. $6(y)$

Identify which of the following numbers are prime.

1. 13

2. 8

3. 31

4. 57

5. 93

Rewrite the following as a product of prime numbers.

6. 32

7. 10

8. 36

9. 100

10. 121

Round the following numbers to the hundredths place.

11. 5.3457

12. - 3.9483

13. 0.00432

14. 198.2314

15. 3221. 5542

Find the value of the square root given.

16. $\sqrt{25}$ 17. $\sqrt{9}$ 18. $\sqrt{49}$ 19. $\sqrt{16}$ 20. $\sqrt{100}$

Determine the Least Common Multiple for the pair of numbers given.

21. 4 and 12

22. 15 and 2

23. 7 and 9

24. 10 and 4

25. 3 and 21

Determine which of the following is not equivalent.

1. 60% , $\frac{3}{5}$, 0.06 , 0.60

2. $\frac{5}{8}$, 0.625 , 62.5% , 625%

3. 83% , $\frac{83}{10}$, $\frac{83}{100}$, 0.82

Determine the fraction and percentage of an hour each time represents.

4. 40 minutes

5. 36 minutes

6. 25 minutes

7. Janie bought 4 apples and 6 bananas. Each apple cost \$0.75, and each banana cost \$0.60. Find the total cost of Janie's purchase.

8. Write a phrase that could be modeled by the expression $n + 2n$.

Find each unit rate.

9. \$30 for 8 students

10. 96 packages in 6 days

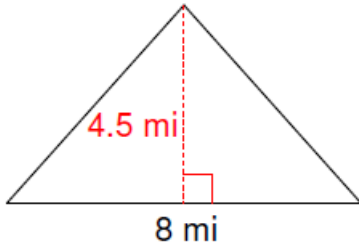
Solve each proportion.

11. $\frac{3}{4} = \frac{z}{12}$

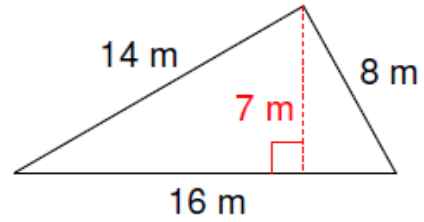
12. $\frac{10}{30} = \frac{6}{t}$

Calculate the area of each triangle shown. Include units in your answer.

1.

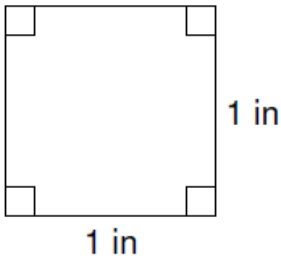


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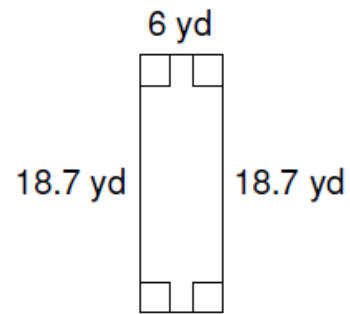


Calculate the area of each quadrilateral shown. Include units in your answer.

3.

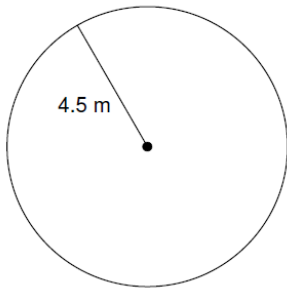


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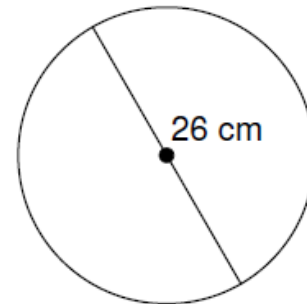


Calculate the circumference of the circle. Include units in your answer.

5.



6.

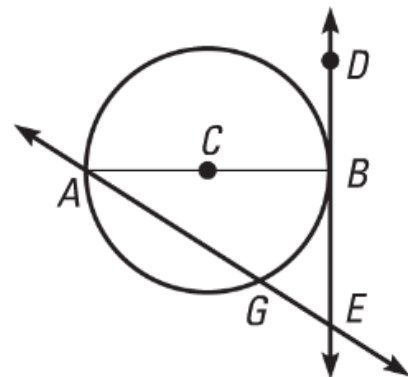


For the circle at the right, name the following:

7. Center of the circle: _____

8. Radius of the circle: _____

9. Diameter of the circle: _____



Reorder each set of numbers from least to greatest.

1. 50%, 0.35, $\frac{7}{8}$, 6.78%

2. 1.28, $\frac{2}{9}$, 45%, $\frac{12}{5}$

3. 0.8%, $\frac{8}{10}$, 0.75, 0.075

Convert each of the following measurements.

4. 20 ounces to pounds

5. 3 feet to inches

6. 5 pounds to ounces

7. A pair of shorts cost \$25.00. The store is having a sale where all shorts are 40% off. What would be the cost of two pairs of shorts if you buy them during the sale?

8. While getting ready for school, you buy the following school supplies: pack of pencils - \$3.50, calculator - \$12.00, notebook - \$2.50, and a binder - \$2.75. If the store you are purchasing them at has a sales tax of 6%, what would be your final bill?

9. At dinner, the bill for the meal (including any tax) is \$35.80. You want to leave your waitress a 20% tip. How much should you leave for a tip? What would be your final total (bill and tip)?

Given the following values, calculate the average (mean) for the following numbers:

1. 24, 30.75, 12, $8\frac{1}{4}$

2. $\frac{1}{2}$, 5, 8.5

3. 4.55, $7\frac{9}{20}$, 14, 21, 9

Identify the mode and median for each set of numbers.

4. 3, 2, 7, 3, 5, 3, 9

5. 4, 1, 2, 9, 2, 4, 8

6. 1, 1, 1, 5, 9, 8, 4,

Mode: _____

Mode: _____

Mode: _____

Median: _____

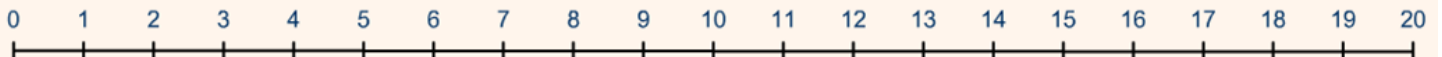
Median: _____

Median: _____

Create a box-and-whisker plot from the following data set.

7. 1, 5, 7, 9, 11, 13, 19

Low: _____ Quartile 1: _____ Quartile 2/Mean: _____ Quartile 3: _____ High: _____



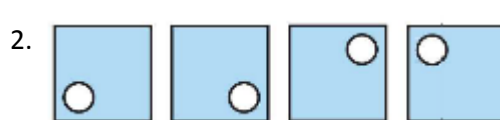
Calculate the absolute value of each number given.

8. $|-8|$

9. $|9.5|$

10. $|-3.89|$

Using the pattern shown, draw the next shape in each sequence.



Given the pattern shown, find the next two numbers in the sequence.

5. 1, 5, 9, 13,

6. 4, 3, 1, -2, ...

_____, _____

_____, _____

Write each number using scientific notation.

7. 920

8. 75.34

9. 0.57

Convert each number from scientific notation to a real number.

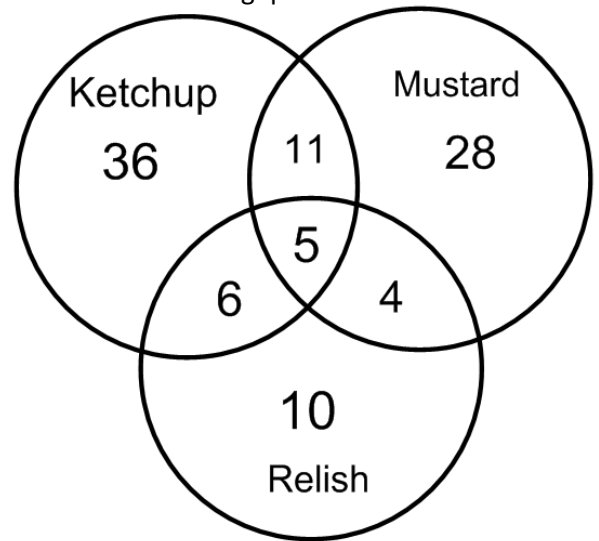
10. 5.5×10^{-1}

11. 8.635×10^4

12. 2.89×10^{-3}

100 fans at a baseball game were asked what toppings they prefer on their hotdogs. Below is a Venn Diagram showing the total number of fans that wanted each topping. Use the diagram to answer the following questions.

1. How many fans wanted only mustard?
2. How many fans wanted ketchup and relish?
3. How many fans wanted ketchup, mustard, and relish?
4. How many fans wanted relish (this includes only relish, or any combination including relish)?
5. How many fans wanted ketchup and mustard?



Calculate the probability of each of the following events.

6. Out of the seven days of the week, what is the probability of selecting a day that starts with the letter S?
7. Out of the twelve months of a year, what is the probability of being born in the month of June?
8. Given an irregular die numbered 1 – 20, what is the probability of rolling an even number?
9. Given a standard deck of cards, what is the probability of drawing a club?
10. You roll two standard dice. What is the probability that the sum of the two dice will be seven?