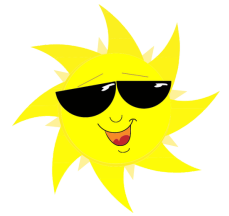


Name _____



Summer Math Review Questions Rising 7th Grade

This packet is to help you keep your math skills sharp over the summer break and is due when we return to school in September. Work should be completed on a separate piece of paper. Please show all work when possible. You are encouraged to complete a few questions each week and should not wait until the end of summer to complete everything. It is okay to ask for help from an adult!

Integer Practice

1. $-9 + (-5) =$
2. $-20 + 33 =$
3. $2 \cdot (-88) =$
4. $99 - 342 =$
5. $8 - 11 =$
6. $8 - (-8) =$
7. $16 \cdot (-3) =$
8. $-2 + (-13) =$
9. $-40 \div (-2) =$
10. $64 \div (-8) =$
11. $-4^2 =$
12. $-16 + (-8) + 1 =$
13. $-9 \cdot 9 =$
14. $10 + (-17) =$
15. $-7 \cdot (-20) =$
16. $-44 + 100 =$
17. $4 - (-18) =$
18. $-100 \div (-20) =$

Order of Operations

Show work! Think: PEMDAS

1. $-6(8-9) =$
2. $3(3-1.5) =$
3. $(-9+2) + (-6 + -10) =$
4. $2 + (-3 - 10) + 22 =$
5. $(10+0) - 94 =$
6. $64 - 8 + 10 =$
7. $(90 - 53) - 2 =$

Evaluating Expressions

Show work! Evaluate each expression using the value given for each variable.

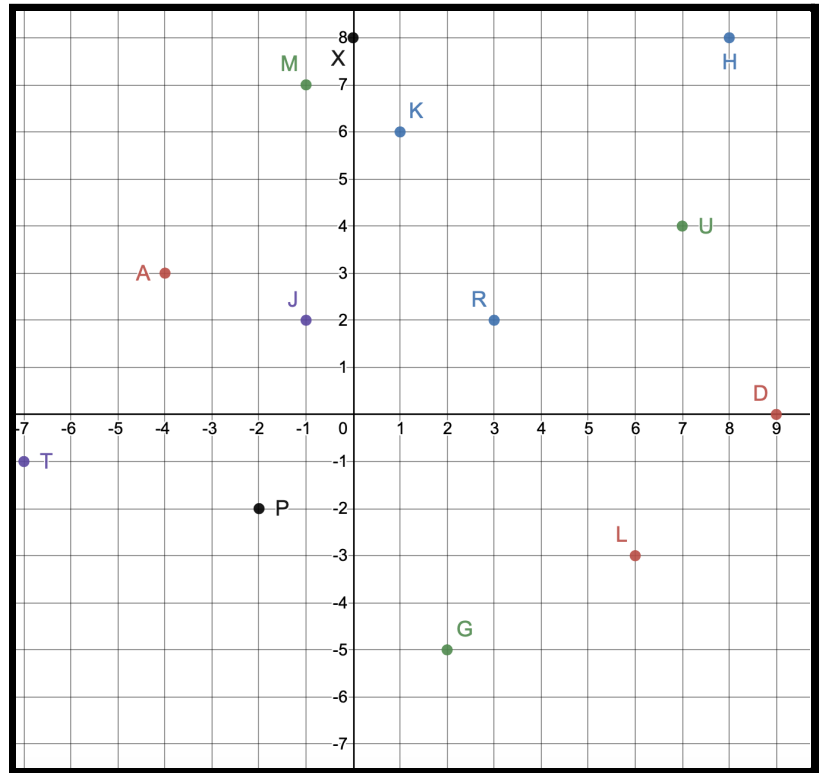
Example: $m+10$; use $m=6 \rightarrow 6+10=16$

1. $y \div 2 + x$; use $x = 1$, and $y = 2$
2. $a - 5 - b$; use $a = 10$, and $b = 4$
3. $p^3 + 10 + m$; use $m = 9$, and $p = 3$
4. $y - (z + z^2)$; use $y = 10$, and $z = 2$
5. $6 \div 6 + z + x - y$; use $x = 2$, $y = 5$, and $z = 6$
6. $y \div 5 + 1 + x \div 6$; use $x = 6$, and $y = 5$
7. $y + 9 - x$; use $x = 1$, and $y = 3$
8. $m + p \div 5$; use $m = 1$, and $p = 5$

Coordinate Plane

Tips: When reading coordinates, (x, y) , the first number, x , tells you which direction to move left or right on the X -axis. The second number, y , tells you which direction to move up or down on the Y -axis.

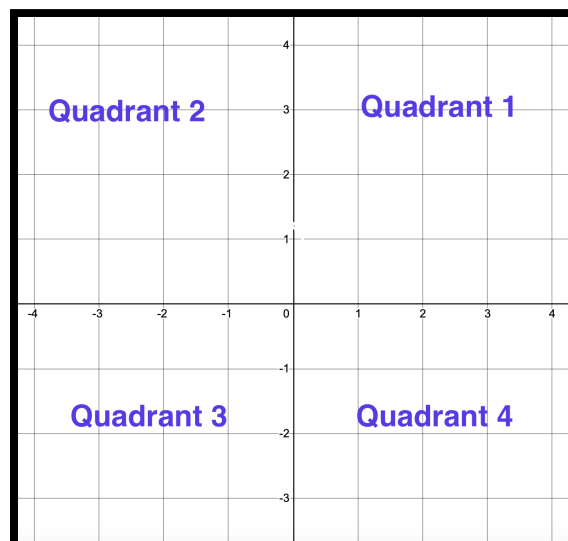
1. Which letter is at $(-2,-2)$?
2. Which letter is at $(-1,7)$?
3. Which letter is at $(-4,3)$?
4. Which letter is at $(1,6)$?
5. Which letter is at $(2,-5)$?
6. Which letter is at $(-7,1)$?



Coordinate Plane Quadrants

Identify the quadrant where each point is located.

1. $(-1,-1)$
2. $(10,-7)$
3. $(4,1)$
4. $(-7,2)$
5. $(7,13)$
6. $(6,-1)$
7. $(23,-9)$



Integer Practice

- $-9 - 6 + 12 + 1 =$
- $-6 + (-7) =$
- $-10 + 7 =$
- $-2 + 3 + 7 + 4 =$
- $0 - 1 + (-10) - 6 =$
- $8 + 2 - (-1) =$
- $6 + 9 + (-4) =$
- $-8 + 0 - 2 =$
- $-10 + (-19) =$
- $-11 + 2 - 2 =$
- $-2 \cdot (-9) =$
- $7 \cdot (-11) =$
- $-34 \div 2 =$
- $-8 \div 2 =$

Order of Operations

Show work! Think: PEMDAS

- $-4(2 + 1) =$
- $17 + (-4) \cdot 2 =$
- $10^2 - 5 =$
- $-3(2 + 1) - 1 =$
- $-18 + 7(6) =$
- $-99(-13 + 2) =$
- $78 + (-5 - 1) + 2 =$
- $6^2 - 1 =$
- $-2^2 + (8 - 10) =$
- $9(2 + 1) =$
- $3 + 5 - 5 + 1^2 =$
- $-9(9 + 1) - 6^2 =$

Inequalities

Part 1: Fill in each square with a $<$ (less than) or $>$ (greater than) symbol.

- $6 \cdot x \square 90$, when $x=12$
- $2-x \square 17 \square -8x$, when $x = -2$
- $12(x+1) \square -19 + 3 \cdot x$, when $x = -4$
- $-19 \square -44$
- $m^3 \square m^4$, when $m = -7$
- $(10-11) + 12 \square 17 - 18 + 2$
- $-6^2 \square 4^3$
- $b + 10^2 \square 6^4 - b$, when $b = -1$

Part 2: Write each inequality as a sentence using the terms "less than", "greater than", "greater than or equal to" and/or "less than and equal to".

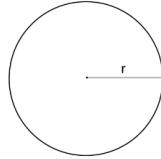
- $106 \geq x$
- $-8 < 10 \geq b$
- $b \leq y$

Formulas for finding area:



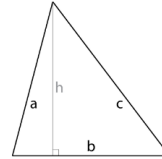
Rectangle

$$A = l \times w$$



Circle

$$A = \pi r^2$$

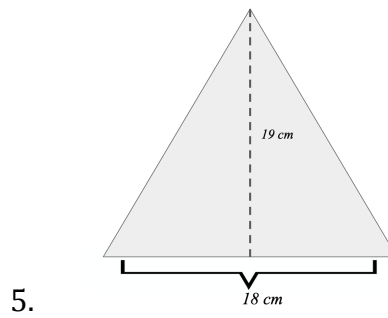
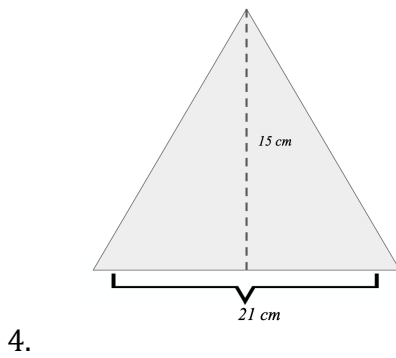
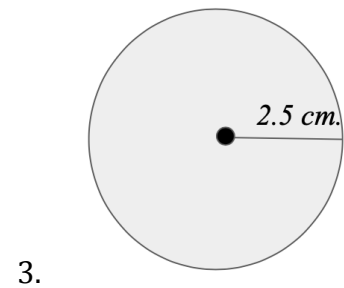
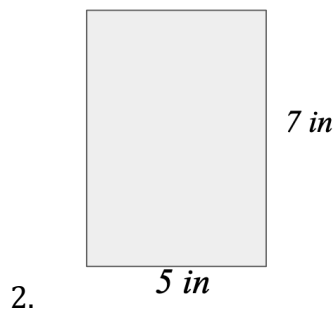
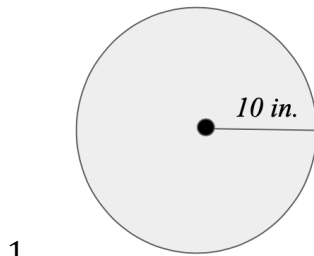


Triangle

$$A = 1/2bh$$

Calculating Area

Find the area of each shape. Round answers to the nearest tenth.



Simplifying Fractions

Tips: To simplify fractions, find a common factor shared between the numerator and denominator. Then, divide each part of the fraction by the common factor. Continue this process until the only common factor between the numerator and denominator is 1. At this point, the fraction is simplified.

Example:

$$\frac{10}{30} \rightarrow \frac{10 \div 10}{30 \div 10} = \frac{1}{3}, \text{ 10 is the common factor of 10 and 30.}$$

Write each fraction in simplest form.

1. $\frac{100}{400}$

2. $\frac{5}{35}$

3. $\frac{18}{42}$

4. $\frac{11}{121}$

5. $\frac{8}{64}$

6. $\frac{32}{56}$

7. $\frac{20}{30}$

8. $\frac{5}{95}$

9. $\frac{7}{28}$

10. $\frac{9}{63}$

11. $\frac{40}{60}$

12. $\frac{9}{36}$

Multiplying and Dividing Fractions

Tip: To multiply fractions, multiply numerators together and denominators together. Then, simplify if necessary. Example: $\frac{1}{2} \cdot \frac{2}{3} = \frac{1 \cdot 2}{2 \cdot 3} = \frac{2}{6} = \frac{1}{3}$

Tip: To divide fractions, you must flip the fraction of the second term, then multiply.

Example: $\frac{4}{5} \div \frac{2}{5} \rightarrow \frac{4}{5} \cdot \frac{5}{2} = \frac{4 \cdot 5}{5 \cdot 2} = \frac{20}{10} = 10$

Solve each problem. Write your answers in simplest form.

1. $\frac{5}{8} \div \frac{1}{2} =$

2. $\frac{5}{6} \cdot \frac{4}{5} =$

3. $\frac{1}{7} \cdot \frac{1}{19} =$

4. $\frac{1}{10} \div \frac{2}{5} =$

5. $\frac{3}{16} \cdot \frac{1}{8} =$

6. $\frac{7}{9} \cdot \frac{7}{10} =$

7. $\frac{1}{2} \cdot \frac{1}{2} =$

8. $\frac{3}{7} \cdot \frac{1}{6} =$

Percentages

Tip: To calculate a percent from a fraction, divide the numerator by the denominator to produce a decimal. Multiply the decimal by 100 and write the final answer with a percentage sign.

Example: $\frac{8}{20} \rightarrow 8 \div 20 = 0.4 \rightarrow 0.4 \cdot 100 = 40\%$

Convert each fraction into a percent. Round answers to the nearest tenth.

1. $\frac{8}{10}$

2. $\frac{4}{8}$

3. $\frac{20}{90}$

4. $\frac{19}{65}$

5. $\frac{81}{100}$

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

7. $\frac{18}{30}$

8. $\frac{44}{45}$

9. $\frac{51}{61}$

10. $\frac{7}{9}$

11. $\frac{1}{6}$

12. $\frac{75}{99}$

Decimals to Fractions

Tip: To convert a fraction to a decimal simply divide the numerator by the denominator.

Example: $\frac{8}{20} \rightarrow 8 \div 20 = 0.4 \rightarrow 0.4$

Part 1: Match the fraction to its correct decimal form.

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

2. $\frac{1}{2}$

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

4. $\frac{1}{8}$

a. 0.5

b. 0.325

c. 0.125

d. 0.6

Part 2: Short answer. Show your work!

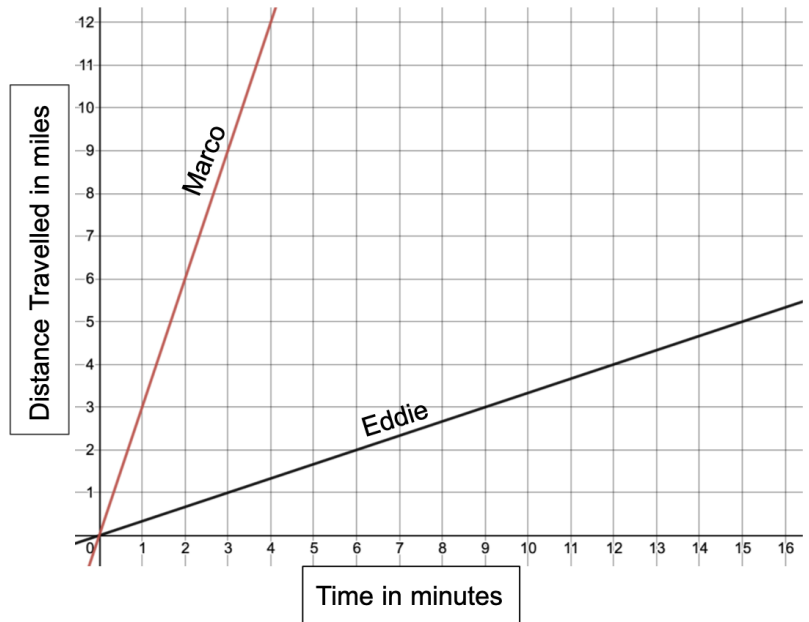
1. What is $\frac{1}{5}$ as a decimal?

2. What is $\frac{2}{5}$ as a decimal?

Analyzing Graphs

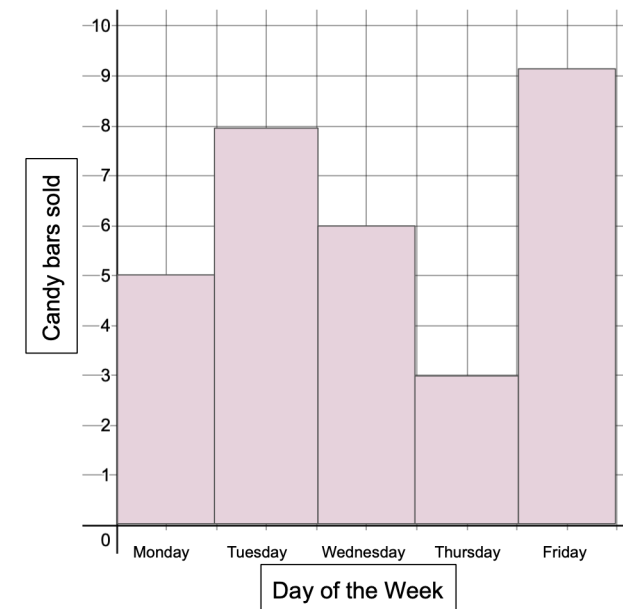
The graph below shows the distance two individuals traveled and the time they spent traveling. Marco was traveling by bicycle and Eddie was traveling by skateboard. Use the graph to answer the questions below.

1. Who traveled at a greater speed, Marco or Eddie? Use data from the graph to support your answer.
2. How long did it take Eddie to travel 3 miles?
3. How many miles had Marco traveled after 3 minutes?



The bar graph below shows the amount of candy bars sold each day over the course of 5 days. Use the data in the graph to answer the questions below.

4. On which day was the least amount of candy bars sold?
5. How many more candy bars were sold on Friday than on Thursday?
6. How many candy bars in total were sold?



Word Problems

Use the skills you've practiced in this packet so far to solve the word problems.

1. Your PE teacher said the seven out of the fifteen students, $\frac{7}{15}$ ran a mile in under 8 minutes. Your friend says that means 56% of the students ran the mile in under 8 minutes. Is your friend correct? Why or why not? Show your work to justify your answer.
2. Two teenagers work summer jobs. The first teenager earns \$20 an hour plus \$55 in tips for each shift worked. The second teenager earns \$25 per hour and receives no tips. Each teenager worked an 8 hour shift. Who earned more money: the first teenager or the second teenager? Show your work to justify your answer.
3. A group of middle school students are given a survey about summer time activities. Out of all of the students surveyed, 26 prefer pools to the beach, 19 take more than one vacation a summer, and half of the students attend a summer camp. If 96 students in total were surveyed...
 - a. How many students attend a summer camp?
 - b. What percent of students prefer pools to the beach?
 - c. What percent of students take more than one vacation?
4. Roger delivers newspapers for one month and earns \$300. Melanie walks dogs and earns \$20 a day and works 25 days in one month. Hugo sells ice cream bars and earns \$5 an hour. He works 120 hours in one month. Order the individuals from least to most money earned per month.