



Name: \_\_\_\_\_

# SUMMER MATH PACKET

For Students Entering 7<sup>th</sup> Grade

## WEEK 1

### TOPIC: FRACTIONS OPERATIONS

#### 1. Add or Subtract

Find each sum or difference.

a)  $\frac{3}{4} + \frac{2}{3} =$  \_\_\_\_\_

b)  $\frac{5}{6} - \frac{1}{2} =$  \_\_\_\_\_

c)  $\frac{7}{8} + \frac{3}{10} =$  \_\_\_\_\_

d)  $\frac{5}{12} - \frac{1}{18} =$  \_\_\_\_\_

e)  $\frac{4}{5} + \frac{2}{15} - \frac{1}{3} =$  \_\_\_\_\_



#### 2. Multiply

Find each product. Simplify your answer.

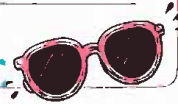
a)  $\frac{2}{3} \times \frac{3}{5} =$  \_\_\_\_\_

b)  $\frac{5}{6} \times \frac{9}{10} =$  \_\_\_\_\_

c)  $\frac{4}{7} \times \frac{2}{3} =$  \_\_\_\_\_

d)  $\frac{3}{8} \times \frac{16}{9} =$  \_\_\_\_\_

e)  $2\frac{1}{2} \times \frac{3}{4} =$  \_\_\_\_\_



#### 3. Divide

Find each quotient. Simplify your answer.

a)  $\frac{3}{4} \div \frac{2}{5} =$  \_\_\_\_\_

b)  $\frac{7}{8} \div \frac{1}{2} =$  \_\_\_\_\_

c)  $\frac{5}{6} \div \frac{10}{9} =$  \_\_\_\_\_

d)  $2\frac{1}{3} \div \frac{7}{9} =$  \_\_\_\_\_

e)  $\frac{4}{5} \div 1\frac{1}{4} =$  \_\_\_\_\_



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## WEEK 2

### TOPIC: DECIMALS OPERATIONS

#### 1. Add or Subtract

Find each sum or difference.

a)  $12.45 + 7.38 =$  \_\_\_\_\_

b)  $56.7 - 18.29 =$  \_\_\_\_\_

c)  $9.125 + 3.476 =$  \_\_\_\_\_

d)  $45.2 - 6.879 =$  \_\_\_\_\_

e)  $27.36 + 14.8 - 6.25 =$  \_\_\_\_\_



#### 2. Multiply

Find each product.

a)  $3.4 \times 6.2 =$  \_\_\_\_\_

b)  $12.5 \times 0.48 =$  \_\_\_\_\_

c)  $7.6 \times 3.85 =$  \_\_\_\_\_

d)  $0.125 \times 72 =$  \_\_\_\_\_

e)  $4.3 \times 0.006 =$  \_\_\_\_\_



#### 3. Divide

Find each quotient.

a)  $43.2 \div 1.8 =$  \_\_\_\_\_

b)  $72.6 \div 0.6 =$  \_\_\_\_\_

c)  $9.45 \div 0.15 =$  \_\_\_\_\_

d)  $120.75 \div 3.5 =$  \_\_\_\_\_

e)  $6.825 \div 0.45 =$  \_\_\_\_\_





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## WEEK 3

### TOPIC: RATIOS AND RATES

#### 1. Simplify Ratios

Simplify each ratio to lowest terms.

- a)  $18 : 24 =$  \_\_\_\_\_
- b)  $45 : 60 =$  \_\_\_\_\_
- c)  $14 : 21 =$  \_\_\_\_\_
- d)  $32 : 48 =$  \_\_\_\_\_
- e)  $27 : 36 =$  \_\_\_\_\_



#### 2. Equivalent Ratios

Determine whether the ratios are equivalent.

Write Yes or No.

- a)  $2:3$  and  $4:6$  \_\_\_\_\_
- b)  $3:5$  and  $6:10$  \_\_\_\_\_
- c)  $2:7$  and  $4:14$  \_\_\_\_\_
- d)  $5:8$  and  $15:24$  \_\_\_\_\_
- e)  $3:4$  and  $9:16$  \_\_\_\_\_



#### 3. Unit Rates

Find the unit rate for each situation.

- a) \$84 for 6 books = \$ \_\_\_\_\_ per book
- b) 240 miles in 4 hours = \_\_\_\_\_ miles per hour
- c) 18 apples for \$3.60 = \$ \_\_\_\_\_ per apple
- d) 15 tickets for \$112.50 = \$ \_\_\_\_\_ per ticket
- e) 96 ounces of juice for \$4.80 = \$ \_\_\_\_\_ per ounce



#### 4. Rate Problems

Solve each problem.

- a) A car travels 315 miles in 5 hours. What is the average speed?  
\_\_\_\_\_
- b) A recipe calls for 3 cups of flour to make 2 dozen cookies. How many cups of flour are needed for 5 dozen cookies?  
\_\_\_\_\_  
\_\_\_\_\_



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## WEEK 4

### TOPIC: PERCENTS

#### 1. Convert Percents to Decimals

Write each percent as a decimal.

- a)  $25\% =$  \_\_\_\_\_
- b)  $46.5\% =$  \_\_\_\_\_
- c)  $3\% =$  \_\_\_\_\_
- d)  $125\% =$  \_\_\_\_\_
- e)  $0.75\% =$  \_\_\_\_\_



#### 2. Convert Decimals to Percents

Write each decimal as a percent.

- a)  $0.28 =$  \_\_\_\_\_
- b)  $1.75 =$  \_\_\_\_\_
- c)  $0.009 =$  \_\_\_\_\_
- d)  $2.3 =$  \_\_\_\_\_
- e)  $0.567 =$  \_\_\_\_\_



#### 3. Find the Percent of a Number

Find each percent of the given number.

- a)  $20\%$  of  $75 =$  \_\_\_\_\_
- b)  $35\%$  of  $240 =$  \_\_\_\_\_
- c)  $10\%$  of  $680 =$  \_\_\_\_\_
- d)  $5\%$  of  $3,200 =$  \_\_\_\_\_
- e)  $75\%$  of  $160 =$  \_\_\_\_\_



#### 4. Percent Word Problems

Solve each problem.

- a) A jacket is originally \$60. It is on sale for 25% off. What is the sale price?  
\_\_\_\_\_
- b) Out of 200 students in a school, 35% participate in the band. How many students are in the band?  
\_\_\_\_\_





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## WEEK 5

TOPIC: Relax

Take a mid summer math break : )



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## WEEK 6

TOPIC: ALGEBRAIC EXPRESSIONS AND EQUATIONS

### 1. Evaluate Expressions

Evaluate each expression when  $x = 4$ .

a)  $3x + 5 =$  \_\_\_\_\_

b)  $2x - 7 =$  \_\_\_\_\_

c)  $5x + 2x - 3 =$  \_\_\_\_\_

d)  $4(x - 3) =$  \_\_\_\_\_

e)  $x^2 + 2x =$  \_\_\_\_\_



### 2. Simplify Expressions

Simplify each expression.

a)  $2x + 3 + x - 5 =$  \_\_\_\_\_

b)  $4y - 7 + 2y + 3 =$  \_\_\_\_\_

c)  $3a + 2b - a + b =$  \_\_\_\_\_

d)  $5(x + 2) =$  \_\_\_\_\_

e)  $2(3y - 4) + y =$  \_\_\_\_\_



### 3. Solve One-Step Equations

Solve each equation.

a)  $x + 9 = 21$   
 $x =$  \_\_\_\_\_

b)  $x - 7 = 13$   
 $x =$  \_\_\_\_\_

c)  $6x = 42$   
 $x =$  \_\_\_\_\_

d)  $\frac{x}{5} = 8$   
 $x =$  \_\_\_\_\_

e)  $3x + 5 = 20$   
 $x =$  \_\_\_\_\_



### 4. Solve Two-Step Equations

Solve each equation.

a)  $2x + 5 = 17$   
 $x =$  \_\_\_\_\_

b)  $3x - 4 = 11$   
 $x =$  \_\_\_\_\_

c)  $5x + 2 = 27$   
 $x =$  \_\_\_\_\_

d)  $4(x - 3) = 20$   
 $x =$  \_\_\_\_\_

e)  $\frac{x}{2} + 3 = 11$   
 $x =$  \_\_\_\_\_



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## WEEK 7

### TOPIC: ORDER OF OPERATIONS

#### 1. Evaluate Expressions

Evaluate each expression using the order of operations.

a)  $5 + 3 \times 2 =$  \_\_\_\_\_

b)  $18 - 4 \times 3 =$  \_\_\_\_\_

c)  $2^2 + 3 \times 4 =$  \_\_\_\_\_

d)  $(12 - 6) \div 3 + 5 =$  \_\_\_\_\_

e)  $7 + 2 \times (8 - 3) =$  \_\_\_\_\_



#### 2. Evaluate Expressions

Evaluate each expression using the order of operations.

a)  $6 \times 2 + 4^2 =$  \_\_\_\_\_

b)  $(15 - 5) \div 2 + 7 =$  \_\_\_\_\_

c)  $3 \times (4 + 6) - 8 =$  \_\_\_\_\_

d)  $100 - 5^2 + 3 \times 2 =$  \_\_\_\_\_

e)  $(18 \div 3) + 2 \times 5 =$  \_\_\_\_\_



#### 3. Word Problems

Solve each problem.

a) A movie ticket costs \$7. There is a service fee of \$1.50 per ticket. If you buy 4 tickets, what is the total cost?  
\_\_\_\_\_

b) A store has a 20% off sale. An item originally costs \$45. How much will you pay after the discount?  
\_\_\_\_\_



#### 4. Multi-Step Expressions

Evaluate each expression using the order of operations.

a)  $2 + 3 \times 4 - 6 \div 2 =$  \_\_\_\_\_

b)  $(9 - 3)^2 + 2 \times 5 =$  \_\_\_\_\_

c)  $12 \div (2 + 4) + 3 \times 7 =$  \_\_\_\_\_

d)  $5 \times [3 + (8 - 2) \div 3] =$  \_\_\_\_\_

e)  $10 - \{2 \times [3 + (4 - 1)]\} =$  \_\_\_\_\_



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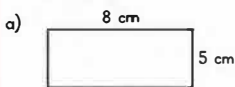


## WEEK 8

### TOPIC: GEOMETRY (AREA, PERIMETER, VOLUME)

#### 1. Perimeter

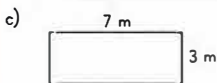
Find the perimeter of each figure.



P = \_\_\_\_\_



P = \_\_\_\_\_

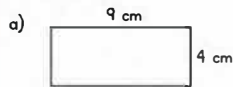


P = \_\_\_\_\_

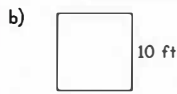


#### 2. Area

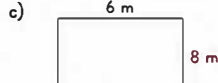
Find the area of each figure.



A = \_\_\_\_\_



A = \_\_\_\_\_

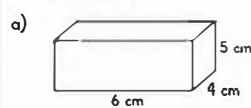


A = \_\_\_\_\_

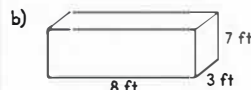


#### 3. Volume of Rectangular Prisms

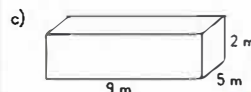
Find the volume of each rectangular prism.



V = \_\_\_\_\_



V = \_\_\_\_\_



V = \_\_\_\_\_



#### 4. Real-World Problems

Solve each problem.

a) A rectangular garden is 15 ft long and 8 ft wide. What is the area of the garden?  
\_\_\_\_\_

b) A box in the shape of a rectangular prism has a length of 12 in, a width of 6 in, and a height of 10 in. What is the volume of the box?  
\_\_\_\_\_

c) A picture frame has an outside dimension of 18 in by 14 in. If the inside opening is 14 in by 10 in, what is the area of the frame border?  
\_\_\_\_\_





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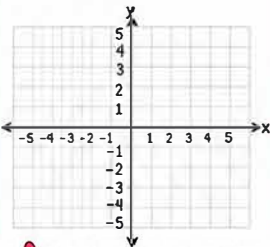
## WEEK 9

### TOPIC: COORDINATE PLANE AND GRAPHING

#### 1. Plot the Points

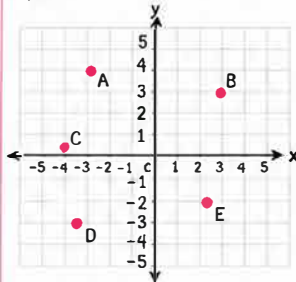
Plot and label each point on the coordinate plane.

- a) A (2, 3)
- b) B (-1, 4)
- c) C (3, -2)
- d) D (-4, -1)
- e) E (0, -3)



#### 2. Find the Coordinates

Write the coordinates of each point.



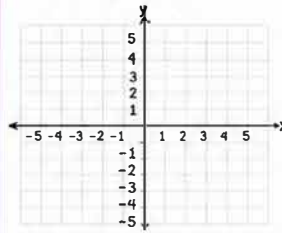
- a) A = ( \_\_\_\_\_ )
- b) B = ( \_\_\_\_\_ )
- c) C = ( \_\_\_\_\_ )
- d) D = ( \_\_\_\_\_ )
- e) E = ( \_\_\_\_\_ )



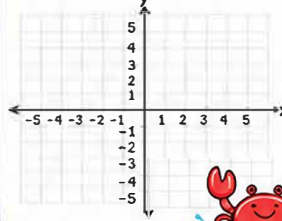
#### 3. Graph from Ordered Pairs

Graph and connect the points in order.

- a) (-4, 1), (-2, 4), (0, 1), (2, -2), (4, 1)



- b) (-3, -1), (-1, -3), (1, -3), (3, -1)



#### 4. Quadrants

In which quadrant (I, II, III, or IV) or on which axis does each point lie?

- a) (3, 5) \_\_\_\_\_
- b) (-2, 1) \_\_\_\_\_
- c) (-4, -3) \_\_\_\_\_
- d) (5, -2) \_\_\_\_\_
- e) (0, 4) \_\_\_\_\_
- f) (-3, 0) \_\_\_\_\_
- g) (0, -5) \_\_\_\_\_



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## WEEK 10

### TOPIC: STATISTICS (MEAN, MEDIAN, MODE, RANGE)

#### 1. Find the Mean

Find the mean (average) of each data set.

- a) 4, 7, 9, 10, 6 \_\_\_\_\_
- b) 12, 15, 18, 10, 20 \_\_\_\_\_
- c) 3, 3, 3, 3, 3 \_\_\_\_\_
- d) 8, 6, 7, 9, 10, 12 \_\_\_\_\_
- e) 2, 4, 6, 8, 10, 12 \_\_\_\_\_



#### 2. Find the Median

Find the median of each data set.

- a) 5, 1, 7, 3, 9 \_\_\_\_\_
- b) 14, 22, 17, 19, 21 \_\_\_\_\_
- c) 8, 8, 8, 8, 8 \_\_\_\_\_
- d) 2, 4, 6, 8, 10, 12, 14 \_\_\_\_\_
- e) 11, 15, 13, 9, 7, 5, 3 \_\_\_\_\_



#### 3. Find the Mode

Find the mode of each data set.  
(If there is no mode, write "none".)

- a) 3, 5, 3, 7, 3, 9 \_\_\_\_\_
- b) 2, 4, 6, 8, 10 \_\_\_\_\_
- c) 1, 2, 2, 3, 3, 3, 4 \_\_\_\_\_
- d) 9, 9, 8, 8, 7, 7 \_\_\_\_\_
- e) 5, 5, 5, 5, 5 \_\_\_\_\_



#### 4. Find the Range

Find the range of each data set.  
Range = highest value - lowest value

- a) 2, 5, 8, 1, 6 \_\_\_\_\_
- b) 15, 10, 20, 5, 25 \_\_\_\_\_
- c) 7, 7, 7, 7, 7 \_\_\_\_\_
- d) 3, 6, 9, 12, 15, 18 \_\_\_\_\_
- e) 30, 22, 17, 14, 10, 5 \_\_\_\_\_



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