Lesson # 49

Convert Fractions and Mixed Numbers to Decimals

Date

Warmup

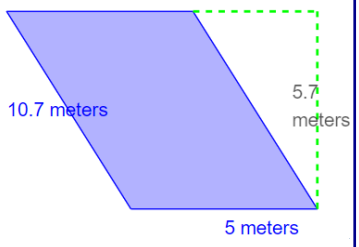
1. Multiply

$\frac{10}{11} x \frac{2}{5}$

2. Calculate the Area and Perimeter of the parallelogram.

Area=_____

Perimeter= _____



3. Calculate

$6 \overline{)48}$

4. Compare

$\frac{8}{12}$ _____ 1

5. Compare

$3\frac{1}{9}$ _____ 1

6. Compare

$\frac{15}{7}$ _____ 1

I. Convert Fractions to Decimal Numbers

To convert a fraction to a decimal number:

Divide numerator ÷ denominator

$\frac{1}{2} = 2 \overline{)1}$

One Half dollar is $0.50

Convert $\frac{3}{4}$ to a decimal

Convert each fraction to a decimal number. (Round to the nearest hundredth, if necessary)

Convert $\frac{3}{8}$ to a decimal

Convert $\frac{4}{7}$ to a decimal

7. Convert $\frac{7}{10}$ to a decimal

II. Convert Mixed Numbers to Decimal Numbers

Convert $4\frac{3}{4}$ to a decimal

Convert $15\frac{7}{10}$ to a decimal

8. Convert $3\frac{4}{5}$ to a decimal

To convert a Mixed Number to a decimal number:

Convert the fraction to a decimal, then write the Whole Number to the left of the decimal.

III. Repeating Decimals

Convert $\frac{1}{3}$ to a decimal

Repeating Decimals:

$\frac{1}{3} = 1 \div 3 = 0.33333\ldots = 0.\overline{3}$

"..." shows the pattern continues

$0.\overline{3}$ is another way to say 3 repeats

9. Convert $3\frac{5}{6}$ to a decimal

IV. Practice

10

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12	13
14	15
16	17
18	19
20	21

Success Check # _____

Name:

Date:

Lesson # 50

Solving 2-Step Equations

Date

Warmup

#1-4 Solve and Check

1. $p + 8 = 14$

2. $\frac{z}{5} = 30$

3. $x - 2 = 6.5$

4. $2y = 17$

5. Twice a number increased by two is ten. What is the number? (use guess and check or another problem solving method)

I. Solving 2-Step Equations

The equations in the Warmup each have 1 operation.

They are 1-step equations.

$p + 8 = 14$

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

$x - 2 = 6.5$

$2y = 17$

To Solve a 2-Step Equation: Work backwards to 'undo' the operations to isolate the variable.

$2n + 2 = 10$

1. Put a box around the variable term.
2. Determine what must be done to result in the variable term on one side of the equation and everything else on the other side.
3. Work step by step to 'isolate' the variable.
4. Check the solution.

$4x - 3 = 9$

6. $6x + 8 = 62$

$5 - 2x = 13$

7. $9 - 3x = 3$

$\frac{x}{3}+5=15$

8. $\frac{a}{4}+6=18$

$16=\frac{8+s}{2}$

9. $10=\frac{7+b}{4}$

II. Solving 1-Step Equations with Integers and Real Numbers

Solve for c:

5.5c = -36.85

Attention

If you have been solving equations in your head, and now realize these questions are difficult. It is suggested you return to Lesson 13, and Lesson 18 to learn and use the steps for solving 1-step equations.

10. $\frac{t}{-4} = 28$

11. p − −6 = 11

III. Practice

12	13
14	15
16	17

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24	25

Success Check # _____

Name:

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Lesson # 51

Percents – Fractions - Decimals

Date

Warmup

#1-4 Solve and Check

1. Write twenty-five cents with a cent sign and dollar sign.

_____

_____

2. $10 = \frac{8+x}{5}$

3.
$\frac{1}{5}$ of 200= _____
$\frac{2}{5}$ of 200= _____
$\frac{3}{5}$ of 200= _____
$\frac{4}{5}$ of 200= _____
$\frac{5}{5}$ of 200= _____

4. $Convert\ \frac{85}{100}\ to\ a\ decimal\ number$

5. Write 0.75 as a fraction in simplest form.

6. How many cents are in a dollar?_____

7. If you have 1 dollar, then you have _____ cents out of 100 cents.

8. Convert 0.57 to a fraction.

I. Percent

65¢

¢ means _____

____¢ is equal to $1

____¢ is equal to $2

The symbol for percent is _____.
Percent is a ratio that compares a number to _____.

Write each percent as a fraction (out of 100) and a decimal.

20%	50%	90%	100%	110%

9. $65\% = \frac{\quad}{100}$

10.

11. $85\% =$

12.

II. Percent as a Fraction in Simplest Form

$40\% = \frac{\quad}{100}$

$70\% = \frac{\quad}{100}$

15. Write 35% as a fraction in simplest form

16.

III. Converting Decimals to a Percent

$0.78 =$ _____%

$0.67 =$ _____%

17. Write 0.39 as a percent.

18.

IV. Converting Fractions to Percent

$\frac{3}{5}$ = _____%

$\frac{2}{25}$ = _____%

19. Write $\frac{18}{50}$ as a percent.

20.

V. Practice

21	22
23	24
25	26

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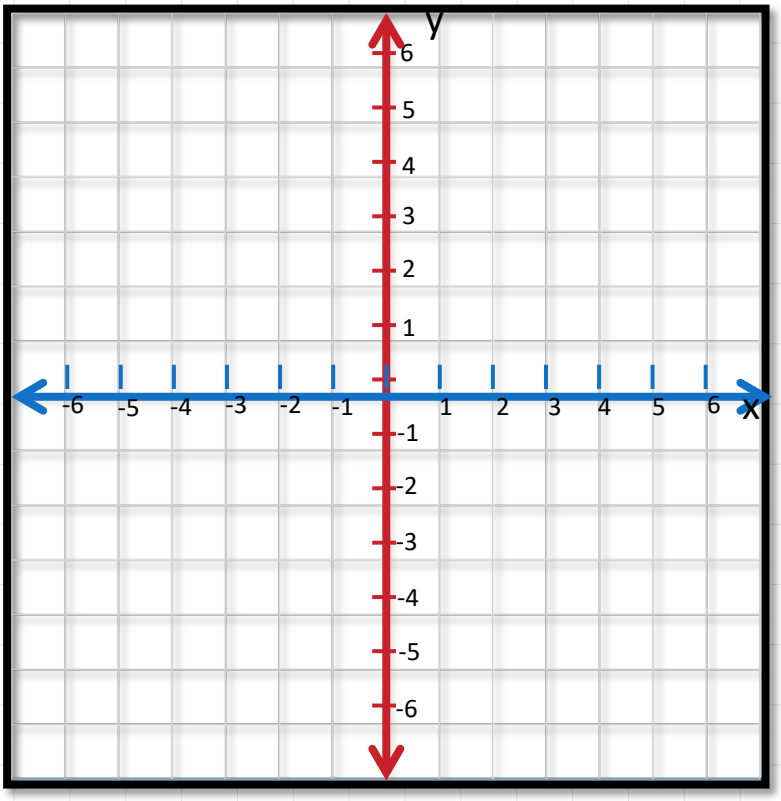

Success Check # _____

Name:

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Lesson # 52

Us Customary Units - Inequalities

Date

Warmup

1. A _____ rate compares _____ measurements.
A _____is in the denominator.

2. How many inches are in a foot?

3. Write the set of each numbers listed

Integers: _____

Counting numbers: _____

Whole numbers: _____

4. -5 - -7 = _____
-6 -3 = _____
4 – 1 = _____
-8 – 0 = _____

5. Solve and Check
X - 10 = 8

I. Metric System Equivalent Measures

$$\frac{10\ mm}{1\ cm} =$$

Metric Equivalent Measures

10 mm = 1 cm
100 cm = 1 m
1000 m = 1 km

The identity of multiplication is _____ because x ·_____ = x

Convert 5 cm to mm

$$\frac{5\ cm}{1} \cdot \frac{10\ mm}{1\ cm} =$$

Complete each equation

_____ mm = 1 cm
_____ cm = 1 m
_____ m = 1 km

6.

II. US Customary Volume and Capacity Equivalent Measures

Convert 4 cups to pints

Convert 26 cups to pints

7.

Us Customary Volume and Capacity Equivalent Measures

8 ounces = 1 cup
2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon

III. US Customary Time Equivalent Measures

Convert 3 hours to minutes

Convert 15 months to years

Us Customary Time Equivalent Measures

60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day
7 days = 1 week
52 weeks = 1 year
365 days = 1 year
366 days = 1 leap year
12 months = 1 year

8.

IV. US Customary Length Equivalent Measures

Convert 24 inches to feet

Convert 2 miles to yards

9.

Us Customary Length Equivalent Measures

12 inches = 1 foot
3 feet = 1 yard
5280 feet = 1 mile
1760 yards = 1 mile

V. Inequalities

Arithmetic Inequality
6 is greater than 4
$6 > 4$
9 is fewer than 30
$9 < 30$

Algebraic Inequality
x is no more than 4
$x \leq 4$
B is at least 6
$B \geq 6$

Inequalities

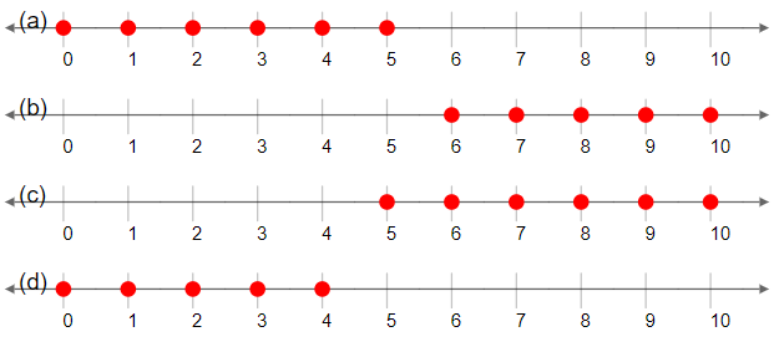
<	>	≤	≥
less than	greater than	less than or equal to	greater than or equal to
fewer than	more than	no more than	no less than
up to	exceeds	at most	at least
	in excess of		

VI. Inequalities on the Number Line (Integers)

What integers from 0 to 10 make X < 5 a true statement?

10.

Graph X < 5 for the set of integers.



VII. Inequalities on the Number Line (Real Numbers)

Real Numbers are numbers include the negative numbers, positive numbers and zero. A real number can have a fraction or a decimal part.

2.25 -9.78 $-\frac{2}{3}$ 0

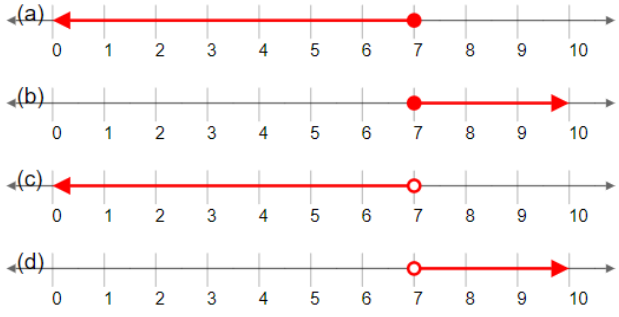
The circle over the number is determined by the inequality.

- Use an open circle for < or >
- Use a closed circle for ≤ or ≥

What real numbers make S ≥ 7 a true statement?

What real numbers make S < 7 a true statement?

Graph S ≥ 7 for the set of real numbers.



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VIII. Practice

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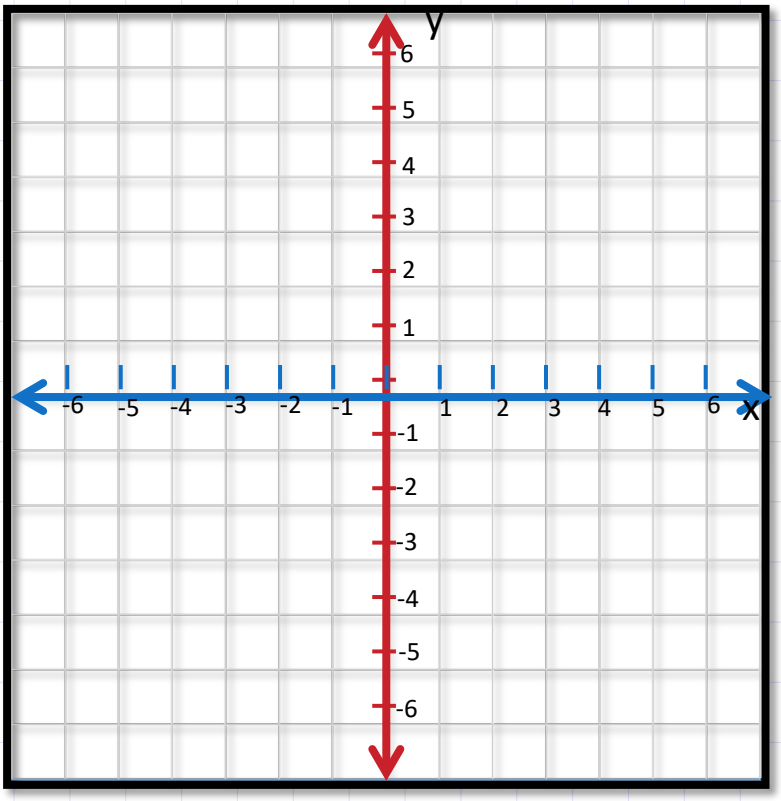

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Success Check # _____

Name:

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Lesson # 53

Solve Addition and Subtraction Inequalities and Polyhedrons

Date

Warmup

1. Solve and Check
t + 5.6 = 1.5

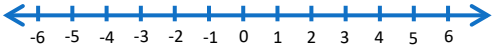
2. Solve and Check
c - 3 = 1

3. Write the inequality for each word phrase
X is fewer than 4 _____
X exceeds 4 _____
X is at least 4 _____
X is no more than 4 _____

I. Solving Addition Inequalities

Solve and Graph:

$H + 3 \geq 8$

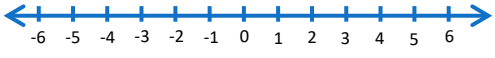


To solve an addition Inequality

1. Rewrite the Inequality with an = sign.
2. Solve for the Variable.
3. Use a test variable to check the answer.

4. Solve and Graph:

$m + 5 > 8$



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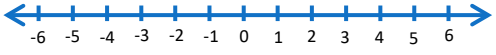
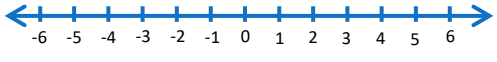


II. Solving Subtraction Inequalities

Solve and Graph:

$s - 10 < -8$

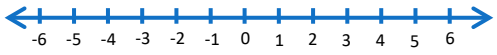


Solve a subtraction inequality

1. Rewrite the Inequality with an = sign.
2. Solve for the Variable.
3. Use a test variable to check the answer.

6. Solve and Graph:

$p - 5 > 1$



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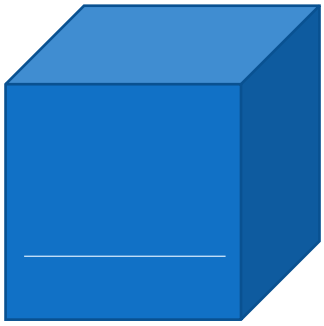
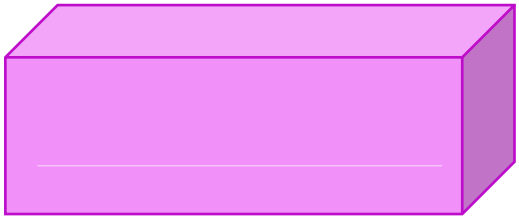
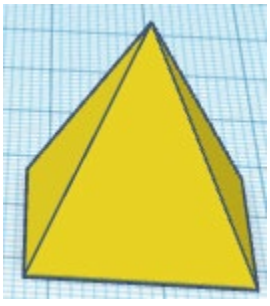
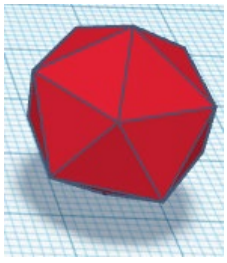
III. Polyhedrons



Polyhedron: A polyhedron is a 3-Dimensional shape made of four or more polygons. It has length, width, and height.







Draw a Cube

Many 3-Dimensional Shapes are NOT polyhedrons.

IV. Practice

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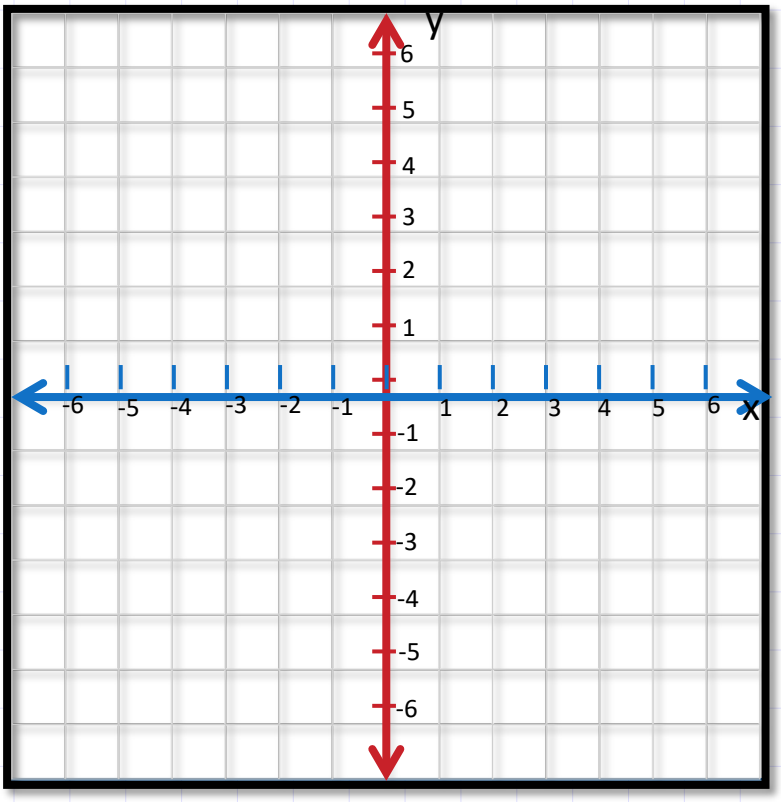

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Success Check # _____

Name:

Date:

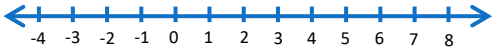
Lesson # 54

Proportions

Date

Warmup

1. Solve, check, and graph
$g + 2.5 \geq 9.5$



2. Find the missing numerator.

$$\frac{7}{8} = \frac{28}{\quad}$$

3. Fill in the missing measurements

_____ ounces= 1 cup
___quarts = 1 gallon
_____ inches = 1 foot
_____feet = 1 mile
___ seconds = 1 minute

I. Proportions

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

Proportion: Two equivalent ratios can be written as a proportion

If $\frac{a}{b} = \frac{c}{d}$, then ad = bc

The cross products of a proportion are equal

Determine if each pair of ratios are equal (=) or not equal (≠).

$$\frac{4}{6} \quad \frac{3}{8}$$

$$\frac{8}{11} \quad \frac{24}{33}$$

4.

$$\frac{10}{8} \quad \frac{8}{10}$$

5.

$$\frac{3}{4} \quad \frac{7.5}{10}$$

II. Find missing Values in a Proportion

$$\frac{p}{3} = \frac{4}{6}$$

To find a missing value of a proportion

1. Set the cross products equal
2. Solve for the variable
3. Check to see if it makes a proportion

Solve for each variable to make a proportion.

$$\frac{t}{9} = \frac{36}{81}$$

$$\frac{3}{m} = \frac{12}{20}$$

$$\frac{7}{4} = \frac{14}{s}$$

$$\frac{3.5}{7} = \frac{b}{24}$$

6. $$\frac{y}{8} = \frac{36}{24}$$

7. $$\frac{5}{w} = \frac{5.5}{11}$$

IV. Practice

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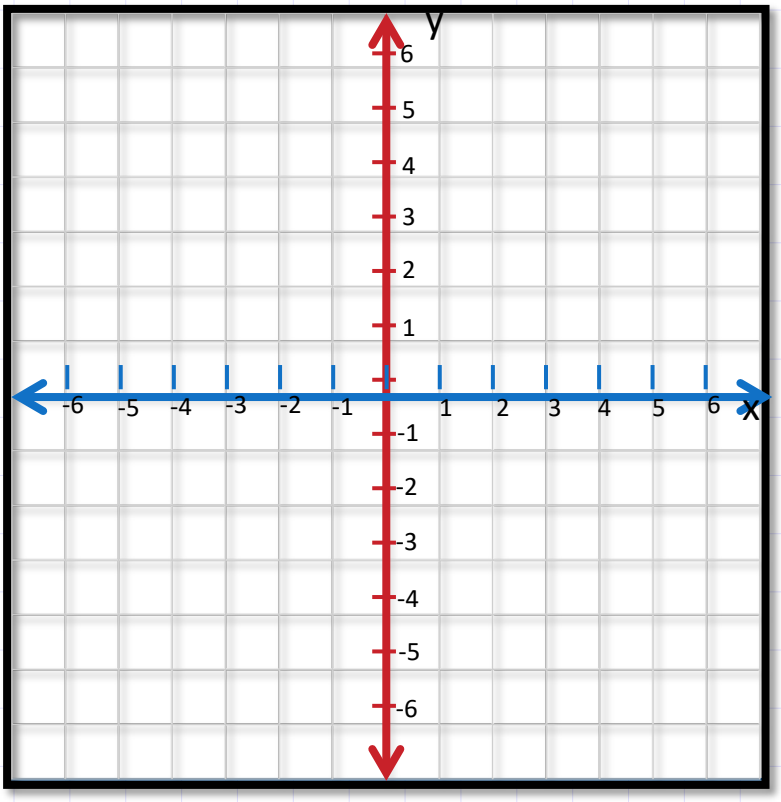

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Success Check # _____

Name:

Date:

Lesson # 55

Sets and Matrices

Date

Warmup

1. $\begin{bmatrix} -1+4= \_\_\_\_ & -2+\bar{}3= \_\_\_\_ \\ 1+3= \_\_\_\_ & 8+\bar{}3= \_\_\_\_ \end{bmatrix}$

2. How many columns are shown on the structure?

3. Solve for d

$$\frac{5}{d} = \frac{30}{42}$$

I. Sets

Set: A collection of elements. (A group of things that belong together)

The items in the set are called **elements**

The elements are written inside curly brackets **{ }**

Example: The set of colors could be

Colors = {red, green, blue}

A set with zero elements is called the empty set, or the null set. The symbol for the empty set is ∅

4. Write the numbers that are included in the set of even numbers from 1 to 10. (Enter the numbers from smallest to largest.)

5. Write the numbers that are included in the set of odd numbers from 1 to 10. (Enter the numbers from smallest to largest.)

6. The symbol placed around a set, or group of items is _____.

7. Match the following:

The set of Integers _____

The set of Whole Numbers _____

The set of Natural Numbers _____

A. {1,2,3,4,5,...}

B. {0,1,2,3,...}

C. {...,-2,-1,0,1,2...}

II. Matrices

The number of dessert sold each month		
	August	September
Anna's Sweets	150	350
Delicious Desserts	25	400

Columns (vertically)

$$\begin{bmatrix} 150 & 350 \\ 25 & 400 \end{bmatrix}$$

Row (horizontally)

Each number in a matrix is called an element.

Determine the dimension of each matrix. (Number of Rows x Number of Columns)

$\begin{bmatrix} 1 & 2 \\ 3 & 4 \\ 5 & 6 \end{bmatrix}$ $\begin{bmatrix} 1 & 7 & 6 \\ 5 & 9 & 5 \\ 7 & 8 & 9 \end{bmatrix}$ $\begin{bmatrix} -5 \\ 8 \end{bmatrix}$ $\begin{bmatrix} 5 & -3 \\ 2 & 0 \end{bmatrix}$ $\begin{bmatrix} -6 & 4 & -3 \end{bmatrix}$

III. Addition with Matrices

Matrices can only be added if they have the same dimensions.

To find the sum of matrices add the corresponding elements.

The sum of matrices of different dimensions is undefined.

$A = \begin{bmatrix} 2 & -4 \\ 6 & 3 \end{bmatrix}$ $B = \begin{bmatrix} 3 & 4 \\ 2 & -5 \end{bmatrix}$ $A+B = \begin{bmatrix} & \\ & \end{bmatrix}$

Add the following Matrices

$C = \begin{bmatrix} 1 & -2 \\ 3 & 4 \\ -5 & 6 \end{bmatrix}$ $D = \begin{bmatrix} 4 & 9 \\ 1 & 3 \\ 7 & -6 \end{bmatrix}$

$C+D = \begin{bmatrix} & \\ & \\ & \end{bmatrix}$

$T = \begin{bmatrix} -5 \\ -8 \end{bmatrix}$

$V = \begin{bmatrix} 4 \\ -7 \end{bmatrix}$

$T+V = \begin{bmatrix} \\ \end{bmatrix}$

$M = \begin{bmatrix} -6 & 4 & -3 \end{bmatrix}$

$N = \begin{bmatrix} 7 & -3 & -8 \end{bmatrix}$

$M+N =$

$C + T =$

9

IV. Practice

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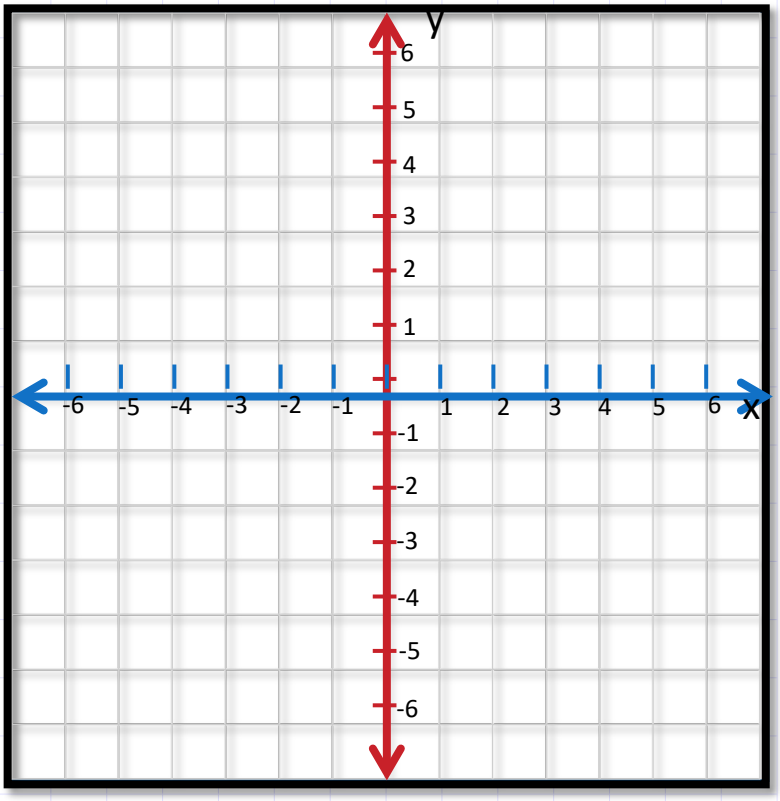

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21 is not on the computer. Use this space to start planning your key chain. Try to draw in 3-dimensions.

Success Check # _____

Name:

Date:

Lesson # 56

Percent Estimation and Equations

Date

Warmup

1. Write 65% as a fraction in simplest form

2. Write the word each operation refers to in a mathematical sentence.
is: _____
increased by: _____
of: _____
less: _____

3. Four is one-half of what number?

4. Write a percent for each word phrase.
One-third of the amount: ____ One –half of the amount:____
Twice the amount: _____ Two-thirds the amount:_____
All of something: _____
Three times the amount: _____

5. Solve each Proportion.
$\frac{x}{7} = \frac{15}{21}$

I. Fraction of a Number

Of means _____

1. _____
2. _____
3. _____

Compute Mentally

$\frac{1}{2}$ *of* 10	$\frac{3}{4}$ *of* 12	6. $\frac{1}{3}$ *of* 9	7. $\frac{2}{3}$ *of* 15	8.

II. Percent of a Number

Of means _____

Look for Patterns!

Compute Mentally

1% *of* 70	40% *of* 120	9. 25% *of* 100	10. $33\frac{1}{3}$% of 60	11.

III. Solving Percent Equations Use Algebraic Equations

Compute using an algebraic equation.

$64\%\ of\ a\ number\ is\ 12.8$	$What\ percent\ of\ 10\ is\ 3.2?$

To solve a percent equation using an algebraic equation:

1. Change the word sentence to an algebraic equation
   is means _____ of means _____
2. Solve for the missing value

12. $28\%\ of\ a\ number\ is\ 28.28$	**13.** $What\ number\ is\ 53\%\ of\ 45?$

14.

IV. Solving Percent Equations Using Proportions

$64\%\ of\ a\ number\ is\ 12.8$	$32\%\ of\ 10$

Compute using a proportion.

To solve a percent equation using a proportion:

1. Set up a proportion $\frac{\textbf{\textit{is}}}{\textbf{\textit{of}}} = \frac{\%}{\mathbf{100}}$ $\frac{\%}{\mathbf{100}}$ ***is the value of the percent.*** Do not write the percent sign.
2. Cross multiply. (of)(%) = (is)(100)
2. Solve for the missing value.

15. Complete the proportion with is, of and %

$$\frac{\quad}{100} = \frac{\quad}{\quad}$$

16. 28% *of a number is* 28.28

17. *What number is* 53% *of* 45

18.

19. The following is Edna Jo's Test paper. It is your job to determine if each question is correct, then determine the final score.

Name: Edna Jo	Test #15	score:
Question	**Answer**	**Grade**
1. Write $\frac{2}{5}$ as a decimal.	0.4	
2. What is 70% of 100?	0.7	
3. 5x +3 is an algebraic expression. (true or false)	true	
4. x + 3 < 4. Solve for x	x < 1	

IV. Practice

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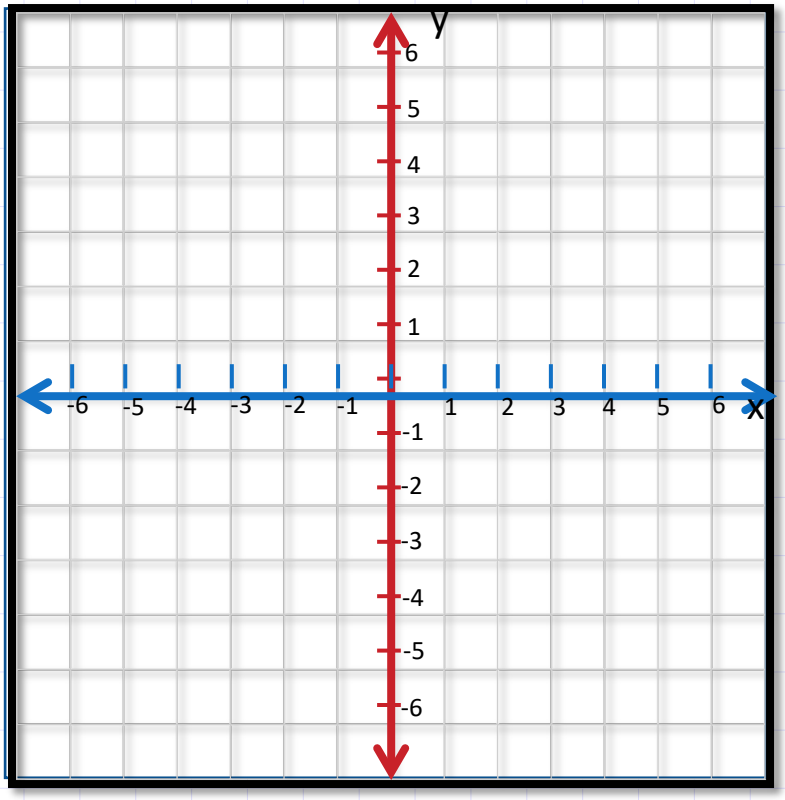

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31. (Not on the computer) Start at the blue dot. Draw a square such that each side of the square is 6 steps long. The tip of your **pencil can not** come off the paper. Write the directions for drawing the square. You may use the following 'commands':

The arrow on the dot shows the direction the pencil can travel. It is facing to the right here. It can only travel to the right. (until it is turned)

To make the pencil move forward _____ squares use: Move _____ steps

To turn, determine if you want to go left or right, and how many degrees.

To turn left: Turn Left _____ degrees

To turn right: Turn Right _____ degrees

The first step is shown in purple.

The second step is started.

Directions:

Move 6 steps

Turn Right _____ degrees

Success Check # _____

Name:

Date:

Review for Module #_____ Answer Sheet

Name:

Attempt #:

1	2
3	4
5	6
7	8
9	10

11	12
13	14
15	16
17	18

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Name: Attempt #: Test #___ Answer Sheet

1	2
3	4
5	6
7	8
9	10

11	12
13	14
15	16
17	18
19	20