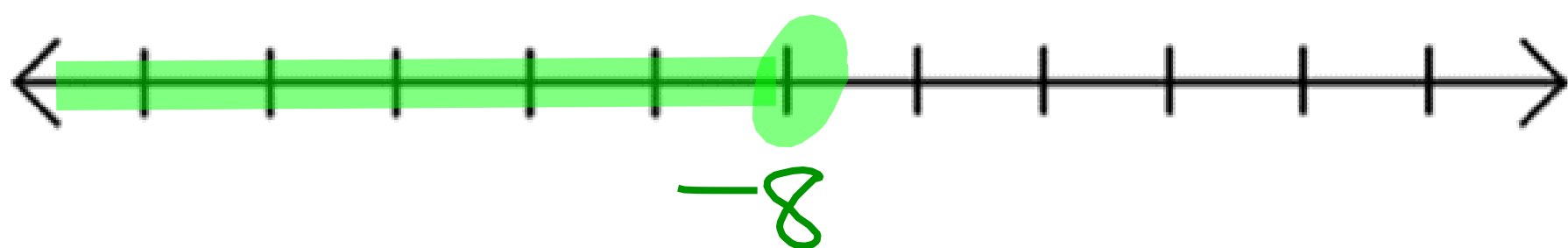


Warm-Up 10/2/17

Solve the following inequalities and graph the solutions.

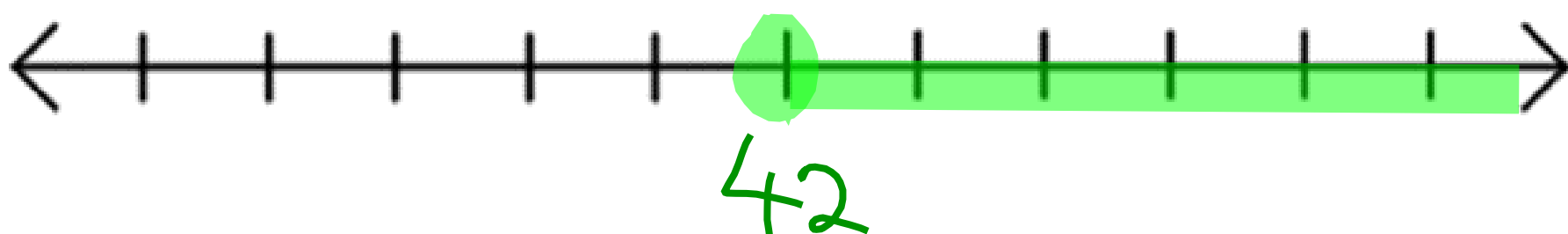
1. $x + 3 \leq -5$

$$\begin{array}{r} x + 3 \leq -5 \\ -3 \quad -3 \\ \hline x \leq -8 \end{array}$$



2. $\frac{x}{6} + 3 \geq 10$

$$\begin{array}{r} \frac{x}{6} + 3 \geq 10 \\ -3 \quad -3 \\ \hline \frac{x}{6} \geq 7 \\ 6 \cdot \frac{x}{6} \geq 7 \cdot 6 \\ x \geq 42 \end{array}$$



Solve the following equations.

3. $-20 = -11 - 3x$

$$\begin{array}{r} +11 \quad +11 \\ \hline -9 = -3x \\ \hline -3 \quad \quad \quad \hline -3 \end{array}$$

$$\boxed{3 = x} \quad \boxed{x = 3}$$

4. $-\frac{x}{2} = 10$

$$-1 \cdot (-x) = (20) \cdot -1$$

$$\boxed{x = -20}$$

Customary Measurement Conversions

10/2/17

Standard:

MGSE5.MD.1: Convert like measurement units within a given measurement system.

Essential Question 10/2/17

How can I convert units in Customary System?

Objective:

I can convert units for length, weight, and capacity in customary system.

Open:

10/2/17

Fill in as many measurements as you know!



Show two slides

Customary Units of Measurement



Length		Convert each quantity to the given units.
1 ft.	<u>12</u> in.	4 ft. = <u>48</u> in.
1 yd.	<u>36</u> in.	1 ½ yd. = <u>54</u> in.
1 yd.	<u>3</u> ft.	<u>2½</u> yd. = 7 ½ ft.
1 mi.	<u>5280</u> ft.	1/3 mi. = <u>1760</u> ft.
1 mi.	<u>1760</u> yds.	3 mi. = <u>5280</u> yd.
Weight		
1 lb.	<u>16</u> oz.	6 lbs. = <u>96</u> oz.
1 ton	<u>2000</u> lbs.	<u>6.4</u> ton = 12,800 lbs.
Capacity		
1 cup	<u>8 fl</u> oz.	<u>24</u> c = 192 oz.
1 pint	<u>2</u> cups	4.5 pt = <u>9</u> c
1 quart	<u>2</u> pints	16 qt = <u>32</u> pt
1 quart	<u>4</u> cups	<u>14</u> qt = 56 c
1 gal.	<u>4</u> quarts	¼ gal = <u>1</u> qt
1 gal.	<u>16</u> cups	<u>11</u> gal = 176 c
1 gal.	<u>128</u> fl. oz.	6 gal = <u>768</u> fl. oz.

Notes in INB

Customary Conversions Strategy

Small units to large units

Large units to small units

Example: 40 in = _____ ft

S à L

12 in. = 1 ft

Divide by the conversion factor

3.33

Example: 12 gal = _____ qt

L à S

12 ⁴⁸ x 4

4 qt. = 1 gal.

Multiply by the conversion factor

$$\begin{array}{r} \underline{40} \\ 1 \end{array} \div \begin{array}{r} \underline{12} \\ 1 \end{array}$$

We can also set up proportions to perform customary conversions!

Customary Conversions

Match each numbered measurement with a line to its correct conversion. Show your work!

1. 4 feet G	A. 54 in.
2. 1 $\frac{1}{2}$ yards A	B. 768 fl. Oz.
3. 7.5 feet D	C. 9 c
4. $\frac{1}{3}$ mile L	D. 2 $\frac{1}{2}$ yd
5. 3 mile I	E. 24 c
6. 6 lbs. H	F. 32 pt
M 7. 12,800 lbs.	G. 48 in.
8. 192 oz. E	H. 96 oz.
9. 4.5 pt. C	I. 5280 yd.
10. 16 qt F	J. 1 qt.
11. 56 c N	K. 11 gal.
12. $\frac{1}{4}$ gal. J	L. 1760 ft.
13. 1760c K	M. 6.4 tons
14. 6 gal. B	N. 14 qt.

1. Instant Meals sent out free samples to introduce its new product, Sesame soup. Each sample weighs 69 ounces. The post office charges thirty-six cents for every 23 ounces of weight. How much would Instant Meals spend on postage to mail out one hundred eighty-eight samples? **Include the \$ sign**

$$\text{Each sample cost } (69 \div 23) \times 36 = \$1.08$$

188 samples weigh

$$188 \times 69 = 12,972 \text{ oz.}$$

$$\frac{\text{oz}}{\$} : \frac{69}{1.08} = \frac{12,972}{x}$$

$$\frac{69x}{69} = \frac{14,009.76}{69}$$

$$x = \$203.04 \text{ to mail 188 samples.}$$

2. There is a jar on the cabinet by the refrigerator. If Keona pours 114 ounces of water into the jar three times to fill it, how many quarts of water does it take to fill the jar? (round to the nearest whole number)

$114 \times 3 = 342 \text{ oz}$

$1 \text{ qt} = 32 \text{ fl oz}$

$$\frac{342}{32} = 10.69 \text{ qts}$$

$\approx 11 \text{ qt}$ of water to fill the jar.

$\text{oz} \rightarrow \text{qt}$
 $\text{S} \rightarrow \text{b} (-)$

3. Brad's father asked an engineer to survey the field behind their house. He wanted to plant some orange and tangerine trees there. According to the survey, the field is thirty-two feet long and six yards wide. What is the perimeter of the field in feet?

$$L = 32 \text{ ft} \quad 1 \text{ yd} = 3 \text{ ft}$$
$$W = 6 \text{ yds}$$

$$6 \text{ yds} \rightarrow \text{ft}$$
$$L \rightarrow S(x)$$
$$6 \times 3 = 18 \text{ ft}$$

$$P = (32 + 18) \times 2$$

$$P = 50 \times 2$$

$$P = 100 \text{ ft}$$

4. John wanted to impress his friends by winning the 200 yard dash at the track meet. If he runs 8.2 feet per second, how long will it take him to complete the dash? (round to the nearest tenth)

$$\frac{8.2 \text{ ft}}{1 \text{ Sec}} = \frac{600 \text{ ft}}{x}$$

$$\frac{1 \text{ yd}}{3 \text{ ft}} = \frac{200 \text{ yd}}{x \text{ ft}}$$
$$x = 600 \text{ ft}$$

$$\frac{8.2x}{8.2} = \frac{600}{8.2}$$

$$x = 73.17 \text{ sec} \approx 73.2 \text{ seconds}$$

5. Lizzy saw a raccoon in her backyard last weekend. She put out some water and a bowl with 3 cups of food. The raccoon drank all the water and ate $\frac{1}{2}$ the food. How many ounces of food did the raccoon eat?

$$1.5 \text{ cups} \rightarrow \text{oz}$$
$$\frac{1 \text{ cup}}{8 \text{ oz}} = \frac{1.5 \text{ c}}{x \text{ oz}}$$
$$x = 8(1.5)$$
$$x = 12 \text{ oz of Food.}$$

Home Work 10/2/17

Customary Conversion # 6 - 10.

Answer the questions on a sheet of paper and show all work.

6. Kelsey has a new baby brother! He weighs 8 lbs 3 oz. The doctor said the baby should gain about 5 ounces per week. At that rate, how much should the baby weigh in 3 months (12 weeks)? In lb and oz

$$5 \times 12 = 60 \text{ oz} \rightarrow 1 \text{ lb}$$

$$\frac{1 \text{ lb}}{16 \text{ oz}} = \frac{x}{63 \text{ oz}}$$

$$\frac{16x}{16} = \frac{63}{16}$$

$$.94(16) = 15.04$$

$$x = 3.94$$

$$\begin{array}{r} + 8 \\ \hline 11.94 \end{array}$$

$$11 \text{ lbs } 15 \text{ oz}$$

7. The police went on a wild chase to catch a man speeding through town in a black pick-up truck. At times their speeds exceeded eighty-five miles per hour. At that rate, how many miles would the car go in 20 minutes? (round to the nearest whole mile)

$$\frac{85 \text{ m}}{1 \text{ hr}} = \frac{85 \text{ miles}}{60 \text{ min}} = \frac{X}{20 \text{ m}}$$

$$\frac{60x}{60} = \frac{1700}{60}$$

$$X = 28.33 \approx 28 \text{ miles}$$

8. Melissa's boyfriend gave her a 2 lb heart-shaped box of chocolates. The box had 68 pieces of chocolate. What was the average weight for each piece of chocolate? (round to the nearest hundredth)

$$2 \text{ lb} = \frac{3202}{68} = \boxed{0.4702}$$

9. According to the news report, the volcano dumped thirty-three million gallons of lava on the surrounding countryside. The biggest eruption up to this time had left three million, seven hundred thousand gallons of lava in its wake. How much more lava was dumped this time?

$$\begin{array}{r} 33,000,000 \\ - 3,700,000 \\ \hline 29,300,000 \text{ gallons} \end{array}$$

10. The concession stand in the theater kept track of its drink sales each week. In the first week of June, the theater sold sixty-seven qts of Purple Passion. In the second week it sold sixty-eight qts of the same drink. Sales were twenty-two gal the third week and one hundred three qts the fourth week. What was the average weekly amount of Purple Passion sold to the nearest quart in June?

$$\begin{array}{r} 67 \text{ qts} \\ + 68 \text{ qts} \\ 22 \text{ gallons} \rightarrow 22 \times 4 = 88 \text{ qts} \\ 103 \text{ qts} \end{array}$$

$$1 \text{ gallon} = 4 \text{ qts}$$

$$\text{Average: } \frac{67 + 68 + 88 + 103}{4}$$

$$= \boxed{81.5 \approx 82 \text{ qts}}$$

Closing
Ticket-Out-the-Door
Show Work!!!

10/2/17

1. $5 \text{ ft} = \underline{\hspace{2cm}} \text{ in}$

2. $64 \text{ qt} = \underline{\hspace{2cm}} \text{ gal}$