1/26/17 CCM6+

1. Write in agenda...HW is pages 39-40...and Project due Mon...and Test 8 Wed 2/2

2. Get a calculator and pages 33-35.

3. Get out your warm-up page to complete.

Warm-ups 1/26/17

1. Hannah babysits to earn money.

   *She charges $6.50 to babysit for the first hour.

   *She charges $5.75 for each additional hour.

Let n equal the number of hours after the first hour.

Which expression represents how much Hannah charges?

A)12.25n B)6.50 + 5.75n C)6.50n + 5.75 D)6.50n + 5.75n

2. What is the quotient of 3.84 and 1.2?

3. What is the value of $\frac{1}{3}x^2 + 2$ when $x = 3$?

Warm-ups 1/26/17

1. Hannah babysits to earn money.

*She charges $6.50 to babysit for the first hour. 1 time

*She charges $5.75 for each additional hour. ·n x ## hours

Let n equal the number of hours after the first hour.

Which expression represents how much Hannah charges?

A)12.25n B)6.50 + 5.75n C)6.50n + 5.75 D)6.50n + 5.75n

2. What is the quotient of 3.84 and 1.2?

3.2
1.2 | 3.84
-36
24
-24
0

3.2

3. What is the value of $\frac{1}{3}x^2 + 2$ when $x = 3$?

$\frac{1}{3} \cdot \frac{3}{1} \cdot \frac{3}{1}$

$\frac{1}{3} \cdot 3^2 + 2$

$\frac{1}{3} \cdot 9 + 2$

$3 + 2$

5

My room is available at lunch today through Friday to work on the project.

If you come, clean up after yourself, and please throw ***stinky*** lunch trash away in a bathroom trash can so I don't have to smell it the rest of the day.

✓ HW

Unit 8 – Page 33

8. Megan created a new drink by mixing 2 parts guava juice with 5 parts mango juice. If Megan used 12 ounces of guava juice, how many ounces of mango juice would be needed?

$\frac{2G}{5M} = \frac{12G}{30M}$

9. Kara and Sam shared a cash prize in the ratio 3:7. If the cash prize was $90, how much money did each person receive?

$\frac{7K}{10} \rightarrow \frac{\$63}{90}$

$\frac{3K}{7S} \rightarrow \frac{3K}{10\text{total}} = \frac{\$27}{90}$

10. The ratio of the length of Mary's wire to the length of Ayman's wire is 5:6. Ayman's wire measures 36 inches. How long is Mary's wire?

$\frac{5M}{6A} = \frac{30M}{36A}$

11. The ratio of cats to dogs at the pet store is 5:6. If there are 121 total cats and dogs, how many cats and how many dogs are at the pet store?

$\frac{5C}{11} = \frac{55C}{121}$

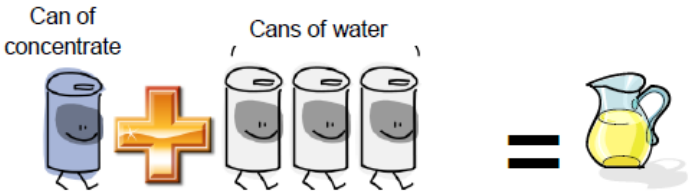
$\frac{6}{11} = \frac{66}{121}$

✓ HW

Unit 8 – Page 34

Mixing Concentrated Drinks

There are many kinds of drinks you can buy at the store in the form of a liquid concentrate to which you add water. For example, one kind of lemonade uses 3 cans of water for each can of concentrate to make one pitcher of lemonade.



1. What is the ratio of water to concentrate? How many total cans of liquid are needed for one full batch? (Cans of concentrate are considered liquid)

3:1

4

(3w+1c)

2. How many total cans of liquid would you use to make 2 batches of lemonade? Set up two equal ratios to find the missing part.

1 → 4c
2 → 8c

8 cans liquid

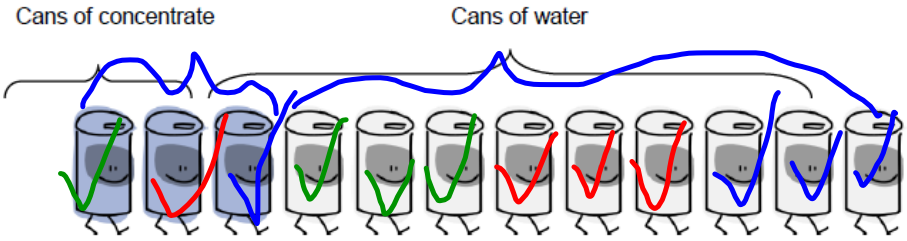
3. How would you create a bigger batch of lemonade that uses a total of 20 cans of liquid (both concentrate and water)? How many of these cans would need to be concentrate and how many cans would need to be water?

4 cans ·5 → 20 total
1c → 5c
3w → 15w

√ HW

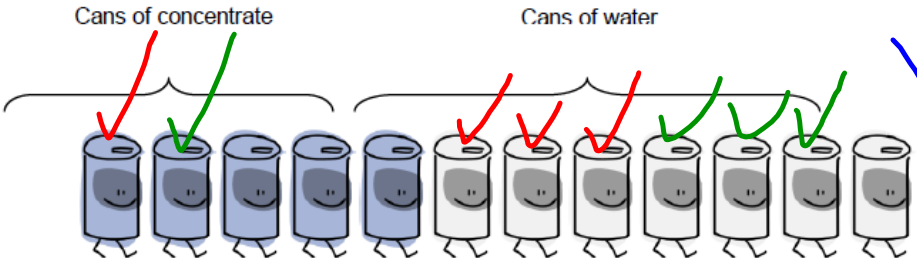
4. Three friends want to have a lemonade stand. They determine that they are going to start by making three batches of lemonade. Each explained how they want to create three batches for the stand. Do you agree or disagree with each friend's reasoning? Use a tape diagram to show why you agree or disagree with each person.

Kira: "In one batch of the lemonade, 3 of the 4 cans are water so ¾ of the lemonade is water. In my bigger batch, I'll need ¾ of the total to be water. If I triple the recipe, there will be a total of 3 X 4 or 12 cans of liquid in all. Since ¾ of 12 is 9, I'll use 9 cans of water and 3 cans of concentrate." Here is her diagram:



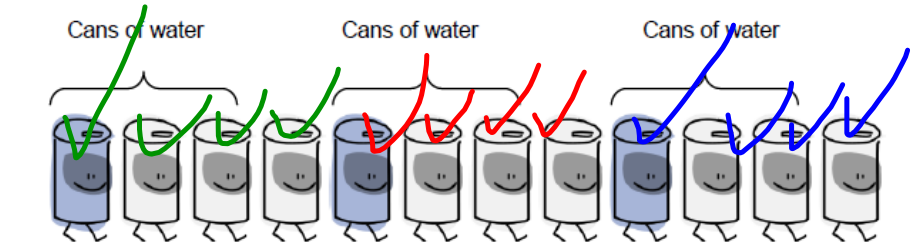
Good. 1 : 3w

Tobi: "The directions call for 1 can of concentrate and 3 cans of water. Since 3 – 1 = 2, there are 2 more cans of water than cans of concentrate. In my bigger batch of punch, I'll need twelve cans in all. So I'll use 5 cans of concentrate and 7 cans of water." Here is Tobi's diagram:



Yuck! Too strong! Needs 8 cans water.

Mitchell: "I'll use a pattern to figure this out. I know I need 3 cans of water for each 1 can of concentrate. I'll just keep adding 1 can of concentrate and 3 cans of water until we have three batches." Here is his diagram:



Good. 1 : 3w

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2c : 5l

1c : 2.5l

Set up two equal ratios to find the missing number.

It might help to first find a unit rate.

1. An advertisement claims that dentists that recommended the new zigzag toothbrush outnumber the dentists that don't by a ratio of 5 to 3. If 264 dentists were interviewed, how many recommended the toothbrush?

$\frac{5 \xrightarrow{\cdot 33}}{8 \xrightarrow{\cdot 33}} = \frac{165}{264}$

2. A quart (32 ounces) container of yogurt contains 920 calories. About how many calories would there be in a 5-ounce serving?

3. The scale on a map is 3 inches equals 4 miles. How far is the actual distance between two towns that are 12 inches apart on the map?

$\frac{3in}{4mi} = \frac{12}{16}$

4. Anya's class is selling wrapping paper. For every 5 rolls they sell, they make a profit of $1.80. If her class has a goal of making a $180 profit, how many rolls of wrapping paper do they need to sell?

$\frac{5r}{\$1.80} = = \frac{\boxed{500}}{\$180}$

5. A recipe requires ¼ lb of onions to make 3 servings of soup. Mark has 1 ½ lb of onions. How many servings can Mark make?

$\frac{\frac{1}{4}o \xrightarrow{\cdot 6}}{3s} = \frac{1\frac{1}{2}}{\boxed{8}}$

6. The ratio of nitrogen to potassium in a sample of soil is 12:9. The sample has 36 units of nitrogen. How much potassium does the sample have?

a. 21 units b. 27 units c. 33 units d. 48 units

$\frac{12N}{9k} = \frac{36}{\boxed{27}}$

7. To clean a tank, $\frac{3}{4}$cup of disinfectant is needed for every 2 gallons of water. How many cups of disinfectant are needed for 20 gallons of water?

a. $7\frac{1}{2}$ b. 15 c. $22\frac{1}{2}$ d. 30

$\frac{\frac{3}{4}c}{2g} = \frac{\boxed{}}{20}$

36

Unit 8 – Page 37

Track Practice

Angel and Jayden were at track practice.
The track is kilometers around.

Angel ran 1 lap in 2 minutes.
Jayden ran 3 laps in 5 minutes.

- How many minutes does it take Angel to run one kilometer? What about Jayden?

- How far does Angel run in one minute? What about Jayden?

- Who is running faster? Explain your reasoning.

Solving Proportion Notes

Let's review first: Are these proportional? 1. Cross multiply to see if equal products	Ex 1. $\frac{2}{7}$ and $\frac{6}{21}$ Ex 2. $\frac{8}{24}$ and $\frac{6}{20}$ Ex 3. $\frac{2}{8}$ and $\frac{6}{20}$
SOLVING PROPORTIONS How can you solve for the variable?	Solve for the unknown variable: Ex 1. $\frac{p}{6}=\frac{10}{3}$ Ex 2. $\frac{45}{x}=\frac{15}{3}$ Ex 3. $\frac{4}{5}=\frac{5}{w}$
More examples: Solve for the unknown variable.	4. $\frac{25}{20}$ and $\frac{45}{x}$ 5. $\frac{n}{10}$ and $\frac{28}{8}$ 6. $\frac{9}{x}$ and $\frac{57}{19}$
You can use proportions to solve real-world problems, when we cannot figure the unit rate easily. Use the information to set up a proportion and solve.	Example: A stack of 18 Jenga blocks is about 25.8 cm tall. What is the height, to the nearest tenth of a centimeter, of a stack of 11 Jenga blocks? Set up the proportion: $\frac{18}{25.8}=\frac{11}{x}$
You try this one: Carmen bought 3 pounds of bananas for \$1.08. At this rate, how many pounds of bananas can she buy with \$1.80?	1. Set up the proportion — = — 2. Solve the proportion.

The trick is to always correspond!

HW

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PROPORTIONS

State if each pair of ratios forms a proportion.

1) $\frac{4}{2}$ and $\frac{20}{6}$

2) $\frac{3}{2}$ and $\frac{18}{8}$

3) $\frac{4}{3}$ and $\frac{16}{12}$

4) $\frac{4}{3}$ and $\frac{8}{6}$

5) $\frac{12}{24}$ and $\frac{3}{4}$

6) $\frac{6}{9}$ and $\frac{2}{3}$

Solve each proportion.

7) $\frac{10}{k} = \frac{8}{4}$

8) $\frac{m}{10} = \frac{10}{3}$

9) $\frac{2}{x} = \frac{7}{9}$

10) $\frac{3}{x} = \frac{7}{10}$

HW

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11) $\frac{4}{9} = \frac{2}{\square}$ 4.5

12) $\frac{6}{\square} = \frac{3}{8}$ 16

13) $\frac{8n}{8} = \frac{8}{3}$

14) $\frac{7}{9} = \frac{a}{5}$

15) $\frac{p}{8} = \frac{13}{2}$

16) $\frac{3}{13} = \frac{v}{3}$

17) $\frac{10}{12} = \frac{2}{n}$

18) $\frac{11}{10} = \frac{r}{11}$

19) $\frac{x}{9} = \frac{7}{14}$

20) $\frac{a}{10} = \frac{11}{14}$

21) $\frac{v}{12} = \frac{10}{2}$

22) $\frac{6}{14} = \frac{5}{n}$