Unit 2 Math Test Review

Name: _____ **#:** _____

Parent Signature (test alert): _____

Test is on: _____

1. Find the greatest common factor for each pair of numbers:

a. GCF (8, 16) = _____ b. GCF (64, 112) = _____

2. Find the least common multiple for each pair of numbers:

a. LCM (5, 8) = _____ b. LCM (12, 10) = _____

3. Saline Spirit Clothing Company makes two kinds of t-shirts.
They produce a basic t-shirt every 5 minutes and a limited edition t-shirt every 12 minutes.
They start at 8:00am.

At what time are the basic t-shirt and the
limited edition t-shirt first produced together? _____

4. Jane's family divided up their garden so that 3/4 of the garden will have vegetables.
Jane and her sister will plant 3/4 of the vegetable portion of the garden.

How much of the family garden will Jane and her sister plant? _____

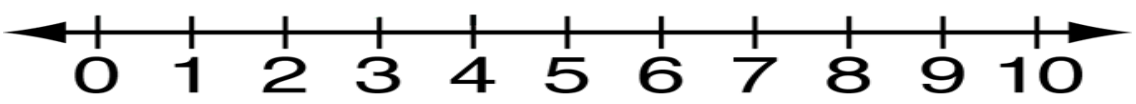
Draw and area model and write a number
sentence to represent the problem.

Number sentence: _____

5. Ambrose is making 4 costumes for the school play.
Each costume requires 1½ yards of material.

How many yards of material should Ambrose buy? _____

Draw a number-line model of the problem.



Write a number sentence to represent the problem: _____

6. Solve.

$4 \div \frac{5}{7} =$ _____ $1\frac{2}{3} \div \frac{3}{5} =$ _____

$\frac{2}{5} \div \frac{3}{4} =$ _____ $\frac{3}{5} \div 4 =$ _____

7. How much of a snack bar will each person get
if 4 people share 1/2 of a snack bar equally? _____

Number sentence: _____

8. ¾ cup of yogurt is one serving.
How many servings are in 2 cups of yogurt? _____

Number sentence: _____

9. There are 4 white tiles for every 8 shaded tiles.
There are 36 tiles in all.
Draw a picture to represent the problem.

How many tiles are white? _____

How many tiles are shaded? _____

10. At the Movie in the Park, there were 30 adults and 45 children.

Using any ratio notation, write the ratio of adults to children.

_____

Which expression(s) could be used to show the ratio of adults to people at the screening?
Circle ALL that apply.

30 : 75	6/15	6/9
30 and 45	30	75 to 30

11. Gracie collects toy cars. She has 4 sports cars for every 6 plain cars.
She has a total of 30 cars. How many are sports cars?

Use a drawing or diagram to represent the problem.

Describe how your picture or diagram represents the problem.

_____

_____

_____

_____

_____

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_____

_____

Solve the problem. Answer: _____

12. Makenna's mom makes special thank-you cards to give her friends.
She uses the same number of heart stickers on each of her cards.
Last week she made 4 cards. She used 16 heart stickers.

Make a ratio/rate table to answer the following questions.

a. How many stickers does Lucy's mom use for 1 card? _____

b. How many cards can she make using 60 stickers? _____

c. How many stickers does she use for 100 cards? _____

d. How many cards can she make with 24 stickers? _____

e. How many stickers does she need to make 17 cards? _____

f. Explain how you used the ratio/rate table to solve Problem 12e.

_____

_____

_____

_____

_____

_____

13. Central Michigan University has a student-faculty ratio of 15 : 1.
Make a ratio/rate table to answer the following questions.

a. How many students are there for 2 faculty members? _____

b. How many faculty members are there for 120 students? _____

c. How many studnets are there for 100 faculty members? _____

d. How many faculty members are there for 4,800 students? _____

e. Explain how you used the ratio/rate table to solve Problem 13d.

_____

_____

14. The Smith family's old car used 6 gallons to drive 186 miles.

a. What is the unit rate for miles per gallon? _____

b. What does this unit rate represent? _____

_____

c. Draw a ratio/rate table to show how much gas the Smith's old car used to travel these distances:
372 miles to grandma's house, 558 to a theme park

d. The Smith's new car uses 9 gallons to drive 252 miles.

Which car goes farther on 1 gallon of gas? _____

How do you know? _____

_____

Unit 2 Math Test Review

Name: Answer Key **#:** _____

Parent Signature (test alert): _____

Test is on: _____

1. Find the greatest common factor for each pair of numbers:

a. GCF (8, 16) = 8

2	8	16
4	4	8
	1	2

2 * 4

b. GCF (64, 112) = 16

4	64	112
4	16	28
	4	7

4 * 4

2. Find the least common multiple for each pair of numbers:

a. LCM (5, 8) = 40

1	5	8
	5	8

see the ⌐? → 1 * 5 * 8

b. LCM (12, 10) = 60

2	12	10
	6	5

2 * 6 * 5

3. Saline Spirit Clothing Company makes two kinds of t-shirts.
They produce a basic t-shirt every 5 minutes and a limited edition t-shirt every 12 minutes.
They start at 8:00am.

1	5	12
	5	12

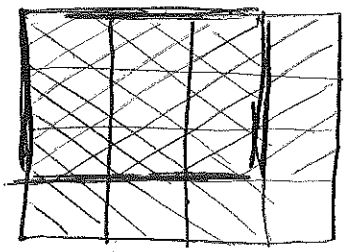
1 * 5 * 12 = 60
60 minutes after the start time

At what time are the basic t-shirt and the limited edition t-shirt first produced together? 9:00 am

4. Jane's family divided up their garden so that 3/4 of the garden will have vegetables.
Jane and her sister will plant 3/4 of the vegetable portion of the garden.

How much of the family garden will Jane and her sister plant? $\frac{9}{16}$ of the garden

Draw and area model and write a number sentence to represent the problem.



$\frac{3}{4}$ will have vegetables

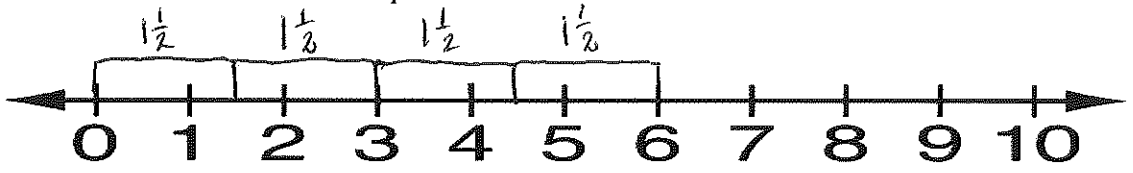
$\frac{3}{4}$ for Jane & her sister

Number sentence: $\frac{3}{4} * \frac{3}{4} = \frac{9}{16}$

5. Ambrose is making 4 costumes for the school play.
Each costume requires 1½ yards of material.

How many yards of material should Ambrose buy? 6 yards

Draw a number-line model of the problem.



Write a number sentence to represent the problem: $1\frac{1}{2} * 4 = \frac{3}{2} * \frac{4}{1} = \frac{12}{2} = 6$

6. Solve.

$4 \div \frac{5}{7} = \frac{4}{1} * \frac{7}{5} = \frac{28}{5} = 5\frac{3}{5}$

$1\frac{2}{3} \div \frac{3}{5} = \frac{5}{3} \div \frac{3}{5} = \frac{5}{3} * \frac{5}{3} = \frac{25}{9} = 2\frac{7}{9}$

$\frac{2}{5} \div \frac{3}{4} = \frac{2}{5} * \frac{4}{3} = \frac{8}{15}$

$\frac{3}{5} \div \frac{4}{1} = \frac{3}{5} * \frac{1}{4} = \frac{3}{20}$

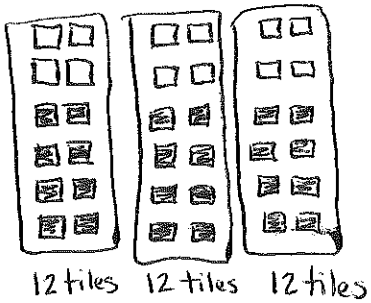
7. How much of a snack bar will each person get if 4 people share 1/2 of a snack bar equally? $\frac{1}{8}$ of the bar

Number sentence: $\frac{1}{2} \div 4 = \frac{1}{2} \div \frac{4}{1} = \frac{1}{2} * \frac{1}{4} = \frac{1}{8}$

8. ¾ cup of yogurt is one serving.
How many servings are in 2 cups of yogurt? $2\frac{2}{3}$ servings

Number sentence: $2 \div \frac{3}{4} = \frac{2}{1} \div \frac{3}{4} = \frac{2}{1} * \frac{4}{3} = \frac{8}{3} = 2\frac{2}{3}$

9. There are 4 white tiles for every 8 shaded tiles.
There are 36 tiles in all.
Draw a picture to represent the problem.



How many tiles are white? 12

How many tiles are shaded? 24

10. At the Movie in the Park, there were 30 adults and 45 children.

Using any ratio notation, write the ratio of adults to children.

30 to 45, 30:45, $\frac{30}{45}$ or 2 to 3, 2:3, $\frac{2}{3}$

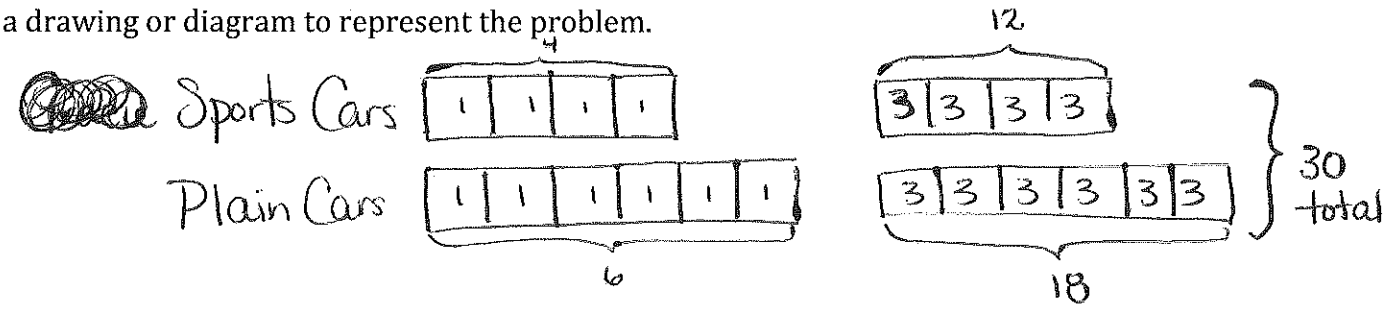
Which expression(s) could be used to show the ratio of adults to people at the screening?
Circle ALL that apply.

30 ↳ adults + children

30 : 75	6/15	6/9
30 and 45	30	75 to 30

11. Gracie collects toy cars. She has 4 sports cars for every 6 plain cars.
She has a total of 30 cars. How many are sports cars?

Use a drawing or diagram to represent the problem.



Describe how your picture or diagram represents the problem.

The tape diagram has to have the same number in each box! The first diagram on the left shows the ratio of 4 sports cars to 6 plain cars. The diagram on the right shows how the 30 cars are split into the 4:6 ratio.

Solve the problem. Answer: There are 12 sports cars.

12. Makenna's mom makes special thank-you cards to give her friends.
She uses the same number of heart stickers on each of her cards.
Last week she made 4 cards. She used 16 heart stickers.

Make a ratio/rate table to answer the following questions.

Cards	1	2	3	4	5	6	15	100
stickers	4	8	12	16	20	24	60	400

a. How many stickers does Lucy's mom use for 1 card? 4 stickers
b. How many cards can she make using 60 stickers? 15 cards
c. How many stickers does she use for 100 cards? 400 stickers
d. How many cards can she make with 24 stickers? 6 cards
e. How many stickers does she need to make 17 cards? 68 stickers

Don't forget the labels!

f. Explain how you used the ratio/rate table to solve Problem 12e.

I can use the table to find an equivalent fraction:

$\frac{\text{Cards}}{\text{Stickers}} \quad \frac{1}{4} = \frac{17}{?}$ Since $1 * 17 = 17$ then $4 * 17 = 68$

13. Central Michigan University has a student-faculty ratio of 15 : 1.
Make a ratio/rate table to answer the following questions.

student	15	30	45	60	120	150	1500
faculty	1	2	3	4	8	10	100

a. How many students are there for 2 faculty members? 30 students

b. How many faculty members are there for 120 students? 8 faculty

c. How many studnets are there for 100 faculty members? 1500 students

d. How many faculty members are there for 4,800 students? 320 faculty

e. Explain how you used the ratio/rate table to solve Problem 13d.
I can find an equivalent fraction:
$\frac{120}{8} = \frac{4800}{?}$ since $120 * 40 = 4800$
then $8 * 40 = 320$

14. The Smith family's old car used 6 gallons to drive 186 miles. $\frac{186 \text{ miles} \div 6}{6 \text{ gallons} \div 6} = \frac{31 \text{ miles}}{1 \text{ gallon}}$

a. What is the unit rate for miles per gallon? 31 miles per gallon

b. What does this unit rate represent? The car will use 1 gallon of gas to drive 31 miles.

c. Draw a ratio/rate table to show how much gas the Smith's old car used to travel these distances:
372 miles to grandma's house, 558 to a theme park
$\frac{186 * 2}{6 * 2} = \frac{372}{12}$ $\frac{186 * 3}{6 * 3} = \frac{558}{18}$

miles	31	186	372	558
gallons	1	6	12	18

d. The Smith's new car uses 9 gallons to drive 252 miles. $\frac{252 \text{ miles} \div 9}{9 \text{ gallons} \div 9} = \frac{28 \text{ miles}}{1 \text{ gallon}}$

Which car goes farther on 1 gallon of gas? The old car goes further!

How do you know? The unit rate for miles per gallon is 28 miles per gallon. This means the new car cannot travel as far as the old car per 1 gallon of gas.