Teacher(s): Mrs. Breazeale & Ms. DeBLanc
Subject/Grade: 7th /Grade Math
Days Covered: February 15, 2024 & February 16, 2024
Domains: Numbers & Operations, Ratios & Proportions, & Geometry
Lesson Plan Title: Test Prep & Review

Q3W6

MATHEMATICS - Mississippi College and Career Readiness Standards for 7th Grade

7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.

7.RP.1 Compute unit rates associated with ratios and fractions, including ratios or lengths, areas and other quantities measured in like of different units.

7.EE Solve real-life and mathematical problems using numerical and algebraic expressions and equations. (VOCABULARY)

7.G.1 Solve problems involving geometric figures, including actual lengths and area of a scale drawing.

ESSENTIAL QUESTION: How will I use mathematical vocabulary and a variety of strategies to analyze and solve real-world problems?

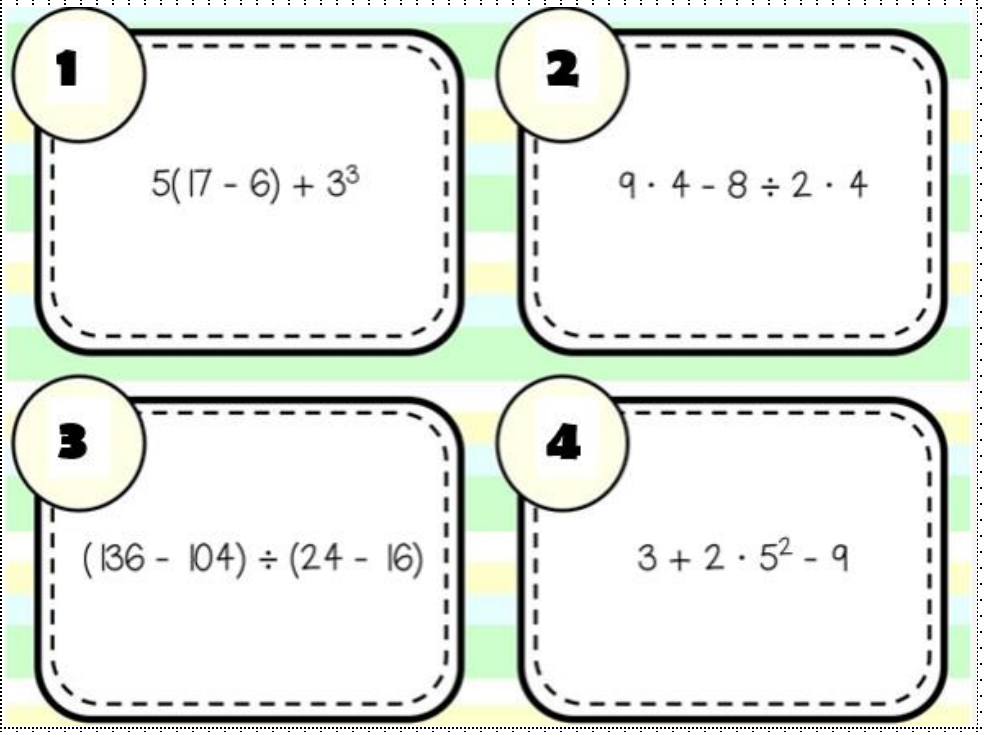
	Focus Question	Objective	I will…
Bell Ringer	What are the order of operations & how can I use them?	TSWBAT follow the order of operations to calculate four "naked" problems by discussing the process within a small group.	Use the order of operations to calculate naked problems.
Center 1: The Number System(NS.3)	How do I solve real-world and mathematical problems involving the four operations with rational numbers?	TSWBAT add, subtract, multiply, and divide rational numbers to solve eight real-world mathematical problems with the help of group members and the UNRAVEL strategy.	Solve real-world and mathematical problems involving the four operations with rational numbers
Center 2: Ratios & Proportions (RP.1)	How will I compare & compute unit rates associated with rational numbers and quantities measured in different units?	TSTBAT determine the best deal when given 10 scenarios by calculating the unit rate of ALL food items and participating in small group discussions.	Calculating the unit rate of two food items to determine the best deal.
Center 3: Expressions & Equations (EE – Vocabulary)	How will learning mathematical vocabulary help me understand and explain mathematical procedures?	TSTBAT use algebraic vocabulary to place 20 "I have…Who Has?" vocabulary cards in order with the help of a small group.	Use my knowledge of algebra vocabulary to place game cards in order.
Center 4: Geometry (G.1)	What is scale factor and how will it help me understand how scale drawings are created?	TSWBAT use reference materials to solve six mathematical problems involving scale drawings.	Use scale factor to solve real-world problems involving scale drawings.
Early Finishers	Which strategies will I use to solve a variety of mathematical problems?	TSWBAT solve twelve MAAP style questions while sharing and discussing strategies within a small group.	Use mathematical skills and strategies to solve a variety of real-world mathematical problems.

Thursday–February 15, 2024

BELL RINGER

7 minutes

Directions: With your group, calculate problems 1-4 using the order of operations (PEMDAS). All group members must show work on ALL problems. (If you don't, it does not count.)



1

$5(17 - 6) + 3^3$

2

$9 \cdot 4 - 8 \div 2 \cdot 4$

3

$(136 - 104) \div (24 - 16)$

4

$3 + 2 \cdot 5^2 - 9$

REVIEW - 7 minutes

GUIDED PRACTICE

20 minutes Each

Each group will complete 2 centers today and 2 centers tomorrow.

	Objective	I will…
Center 1: The Number System(NS.3)	TSWBAT add, subtract, multiply, and divide rational numbers to solve eight real-world mathematical problems with the help of group members and the UNRAVEL strategy.	Solve real-world and mathematical problems involving the four operations with rational numbers
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EARLY FINISHERS

If you finish any center before time is up, work on the "Early Finishers" Practice page found on your table.

Early Finishers	TSWBAT solve twelve MAAP style questions while sharing and discussing strategies within a small group.	Use mathematical skills and strategies to solve a variety of real-world mathematical problems.

Centers that MUST be Completed Today

GROUP C
Centers 3 & 4

GROUP D
Centers 4 & 3

GROUP B
Centers 2 & 1

GROUP A
Centers 1 & 2

Center 1: The Number System

Monique makes 18 out of 27 shots in a basketball game. Which decimal represents the fraction of shots Monique makes?

A 1.5

B $1.\overline{5}$

C 0.6

D $0.\overline{6}$

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Scott correctly writes each fraction below as a decimal. Which fractions have terminating decimals?

a. $\frac{7}{15}$

b. $\frac{3}{15}$

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Camille is taking a quiz on a computer. The computer says her score is 0.625. Which fractions are equivalent to 0.625?

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Carmen is $5\frac{1}{4}$ years younger than Antoine. Katy is $11\frac{1}{2}$ years older than Carmen. To the nearest year, what is the difference in Antoine's age and Katy's age?

A) Antoine is about 17 years older than Katy.
B) Antoine is about 6 years older than Katy.
C) Antoine is about 6 years younger than Katy.
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Anita, Jared, and Steph are rock climbing. Anita is $42\frac{1}{2}$ feet below Jared. Steph is $67\frac{3}{4}$ feet above Anita. What is Steph's position compared to Jared?

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A) -100.08
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C) -19.83
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Steve, Ja'Mere, and Liza accidentally broke a Chromebook computer which gives them a combined debt of $500. They decide to split the cost evenly. How much money will each student have to pay to replace the computer? Round your answer to the nearest cent.

A) $166.67
B) $250.50
C) $500.00
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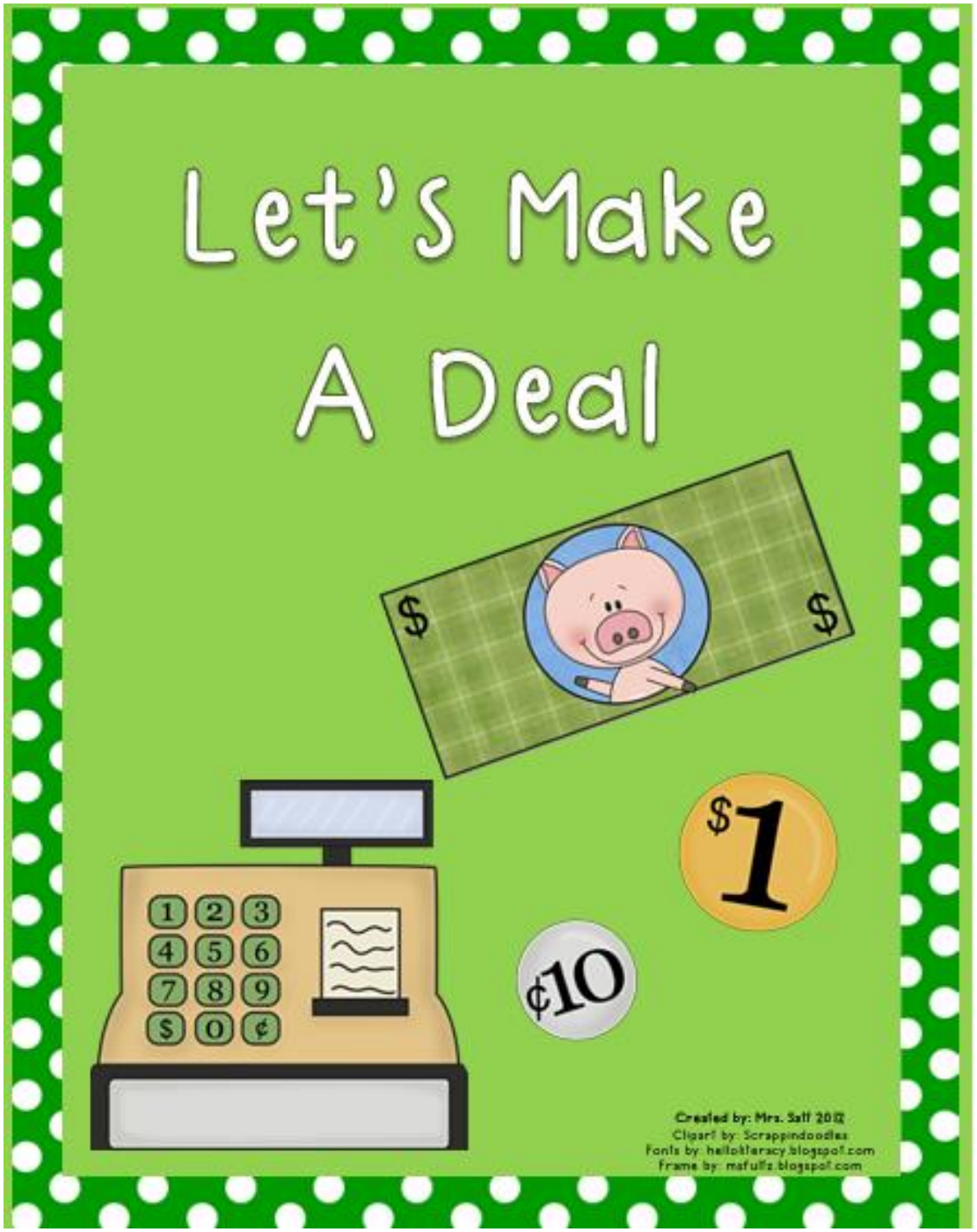
Center 2: Ratios & Proportions



Center 2: Ratios & Proportions

Let's Make A Deal!

Your objective is to find the best deal when given two options. Bubble in the option that is the best deal and write the unit rate of that option on the line provided.

Option 1	VS.	Option 2	Best Deal
Sargento Cheese Slices $2.48 for 10 Slices	VS.	Velveeta Cheese Slices $3.18 for 12 Slices	○ Option 1 ○ Option 2 Unit Rate: _____
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Center 2: Ratios & Proportions

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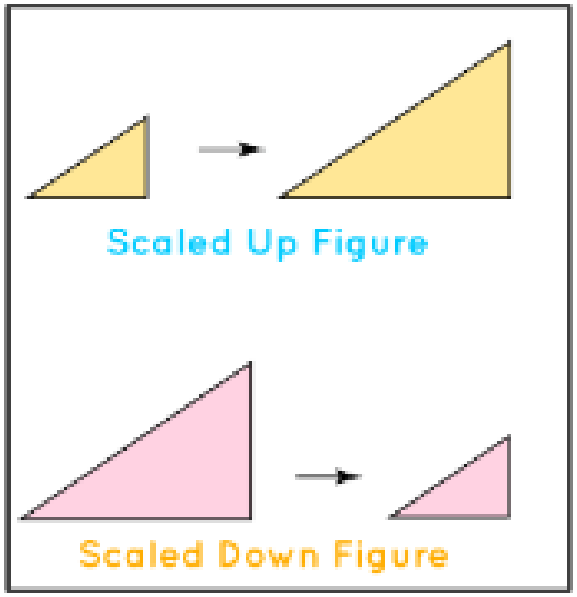
Crayola Crayons $6.97 for 120	VS.	Rose Art Crayons $1.53 for 24	O Option 1 O Option 2 Unit Rate: _____

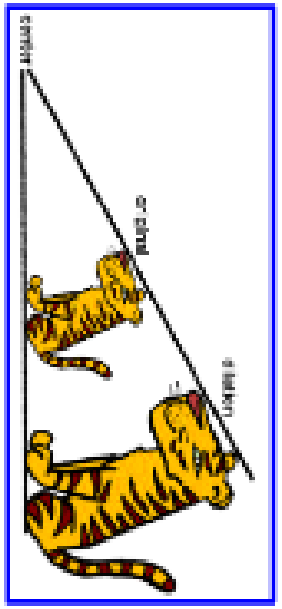
Center 3: Expressions & Equations

Center 4: Geometry

Scale Factor (7.G.1)

Scale factor = Dimension of the new shape ÷ Dimension of the original shape.

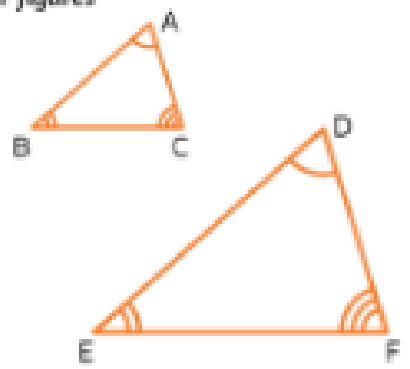




The corresponding sides of similar figures are **proportional.**

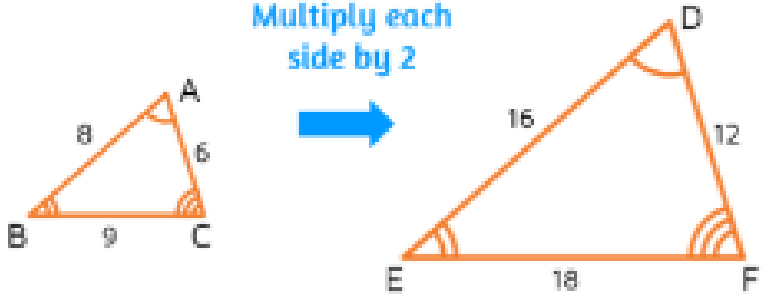
$$\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$$

The ratios of the corresponding sides are the same.

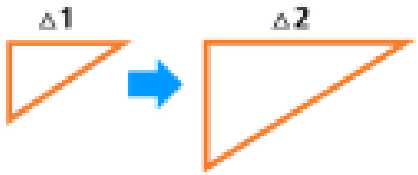


The scale factor of △ABC to △DEF is 2.

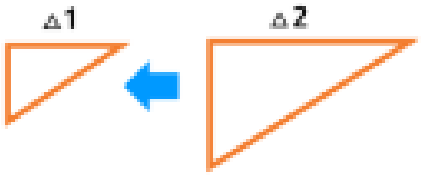
Multiply each side by 2



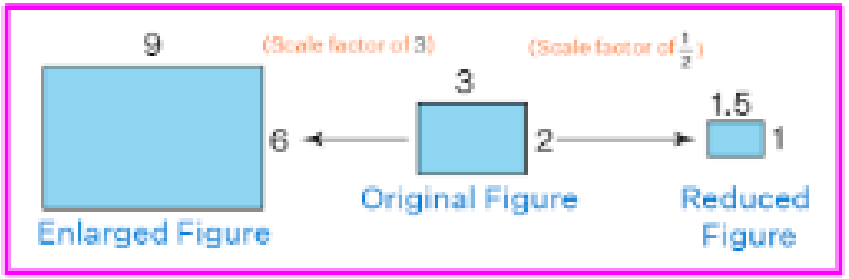
The Order is Important!



Getting Bigger:
The scale factor of △1 to △2 is larger than 1.



Getting Smaller:
The scale factor of △2 to △1 is a fraction smaller than 1.



Center 4: Geometry

Question 1 (7.G.1)

A building has a height of 125 meters and a length of 80 meters. On a scale drawing of the building, the height is 25 centimeters.

What is the length of the building on the scale drawing in centimeters?

F 55 cm

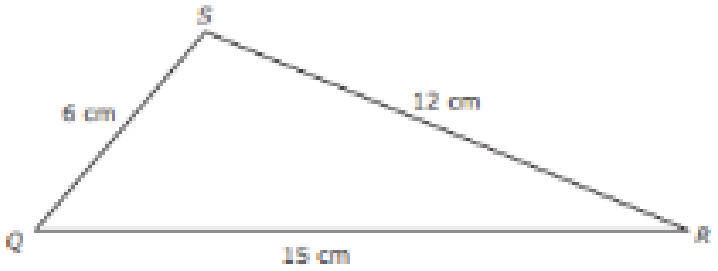
G 16 cm

H 20 cm

J 64 cm

Question 2 (7.G.1)

Triangle *QRS* and its dimensions are shown.



Which measurements in centimeters represent the dimensions of a triangle that is similar to triangle *QRS*?

A 8 cm, 14 cm, 17 cm

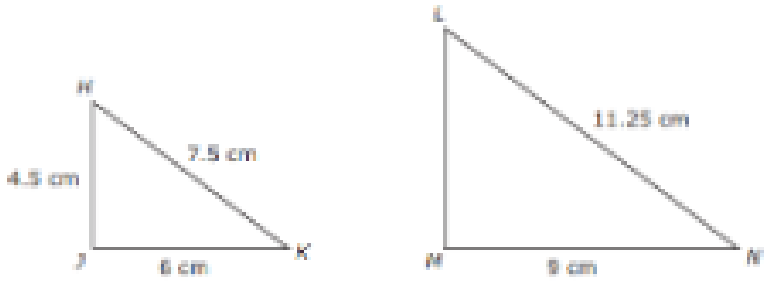
B 10 cm, 20 cm, 25 cm

C 4 cm, 10 cm, 13 cm

D 12 cm, 24 cm, 36 cm

Question 3 (7.G.1)

Triangle *HJK* is similar to triangle *LMN*.



Which proportion can be used to calculate the length of $\overline{DR}$ in centimeters?

A $\frac{7.5}{11.25} = \frac{LM}{4.5}$

B $\frac{6}{7.5} = \frac{LM}{9}$

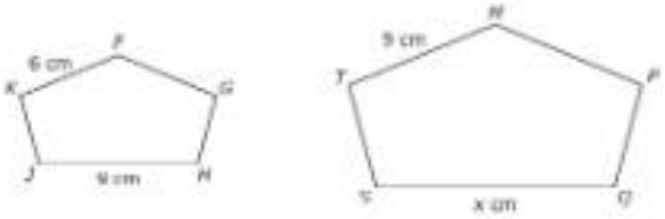
C $\frac{11.25}{LM} = \frac{4.5}{7.5}$

D $\frac{9}{LM} = \frac{6}{4.5}$

Center 4: Geometry

Question 4 (7.G.1)

Pentagon FGHJK is similar to pentagon MPQST.



What is the value of x?

A 13.5

B 12

C 9.5

D Not here

Question 5 (7.G.1)

An engineer created a scale drawing of a building using a scale in which 0.25 inch represents 2 feet. The length of the actual building is 250 feet.

What is the length in inches of the building in the scale drawing?

Question 6 (7.G.1)

A contractor is given a scale drawing of a rectangular patio. The scale from the patio to the drawing is 4 ft to 1 in. What is the area of the actual patio?

A 27 ft^2

B 54 ft^2

C 170 ft^2

D 192 ft^2

Early Finishers

7th Grade Math Mixed Practice #1

Directions: Read each question carefully and solve. Show work when applicable.

1 A clock face has a circumference of 39.88 cm .

Find the diameter of clock.

Use $\pi = 3.14$.

(A) 6.35 cm

(B) 12.7 cm

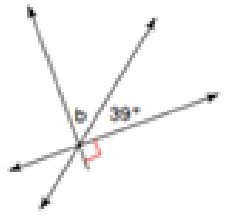
(C) 19 cm

(D) 25.40 cm

2) The side lengths 11 cm, 12 cm, and 23 cm form a triangle.

(A)True
(B) False

3 Find the measure of angle b.



b = ____ degrees

4) The expression $-4(2x-5)$ is equivalent to $4(-2x+5)$.

(A)True
(B) False

5) Solve for x.

$$4x-2=38$$

6) Ms. Streeter gave her class 12 minutes to read. Danielle read $5\frac{1}{2}$ pages in that time. At what rate, in pages per hour, did Danielle read?

7 What is the distance between - 3 and 12?

(A) 9

(B) - 9

(C) 15

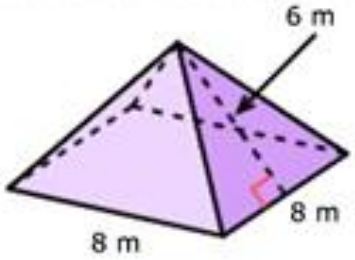
(D) - 15

8) A television, t, is on sale at a 30% discount. The expressions, $t-0.3t$ and $0.7t$, can be used to represent how to calculate the cost after the sale after the sale.

(A)True
(B) False

Early Finishers

9 Find the surface area of the figure below.



$\square$ m^2

10 The solution set of the inequality $12 - 13x \geq -1$ is

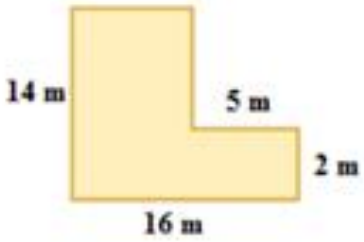
(A) $x \geq 1$

(B) $x \geq -1$

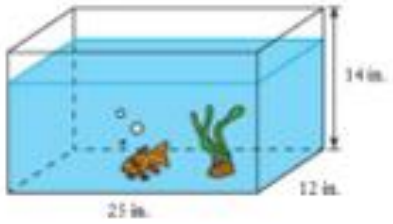
(C) $x \leq 1$

(D) $x \leq -1$

11 Find the area of the figure.



12) Find the volume of water needed to fill the $\frac{3}{4}$ of the aquarium.



EXIT TICKET

Directions: Answer the focus question of the two centers you completed today.

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Center 2: How will I compare & compute unit rates associated with rational numbers and quantities measured in different units?

Center 3: How will learning mathematical vocabulary help me understand and explain mathematical procedures?

Center 4: What is scale factor and how will it help me understand how scale drawings are created?

Friday–February 16, 2024

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7 minutes

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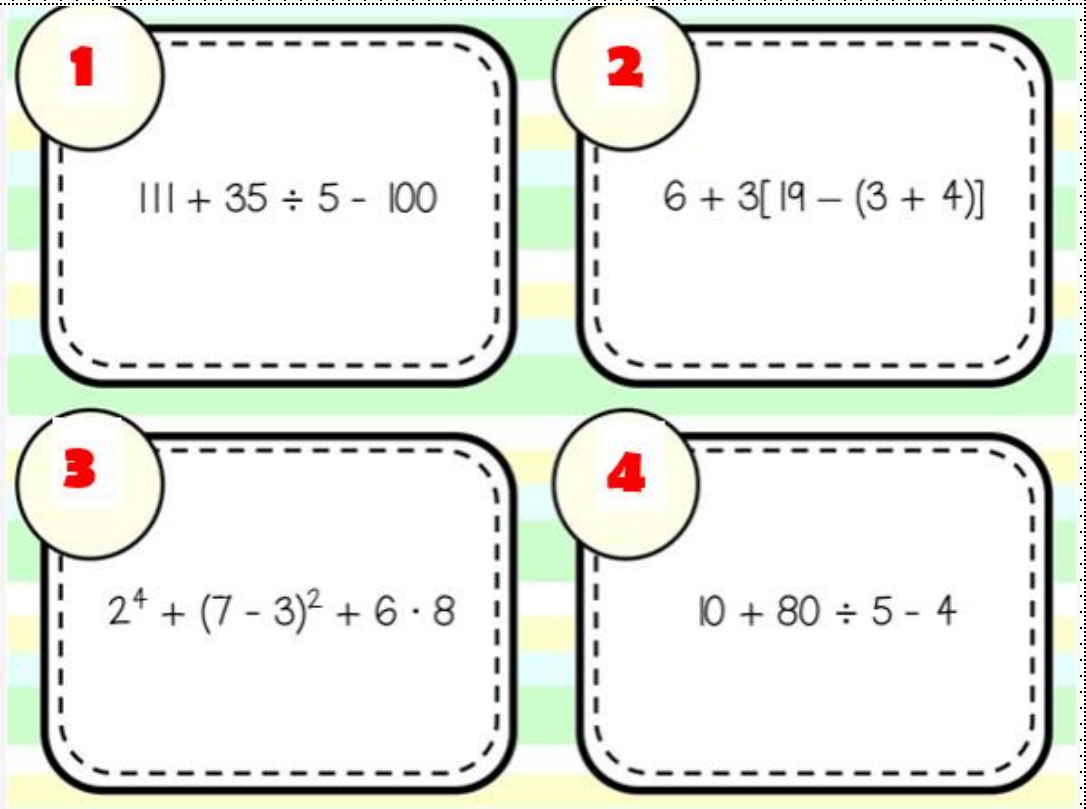

1

$111 + 35 \div 5 - 100$

2

$6 + 3[19 - (3 + 4)]$

3

$2^4 + (7 - 3)^2 + 6 \cdot 8$

4

$10 + 80 \div 5 - 4$

REVIEW - 7 minutes

GUIDED PRACTICE

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Centers 2 & 1

GROUP D
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Centers 4 & 3

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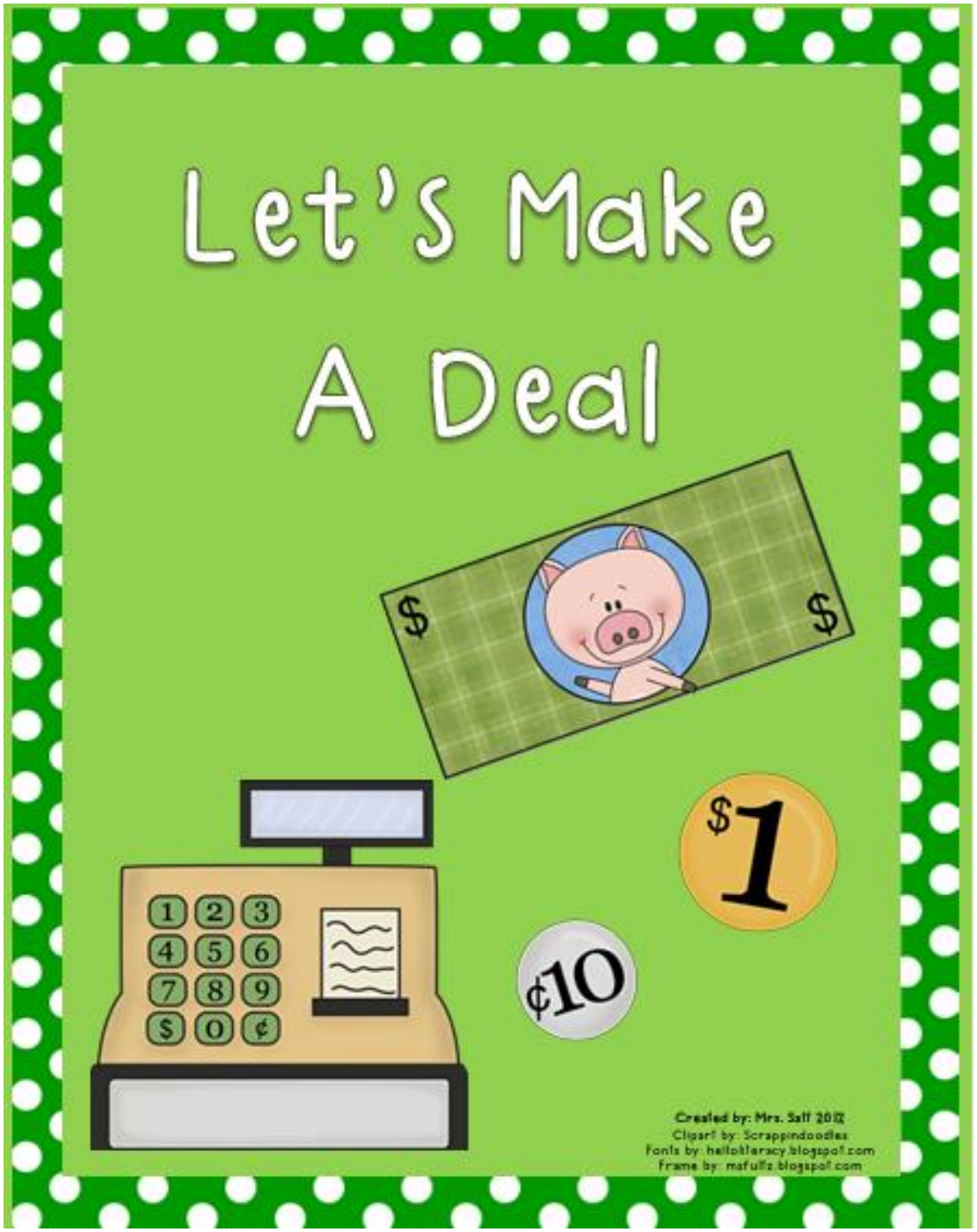

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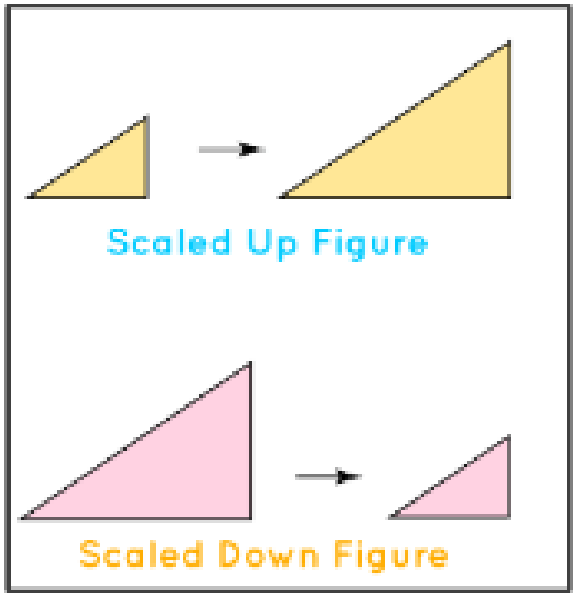
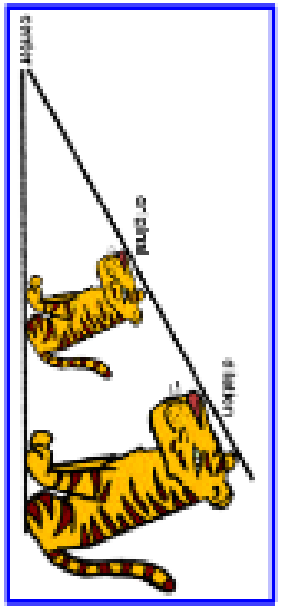
Center 3: Expressions & Equations

Center 4: Geometry

Scale Factor (7.G.1)

Scale factor = Dimension of the new shape ÷ Dimension of the original shape.

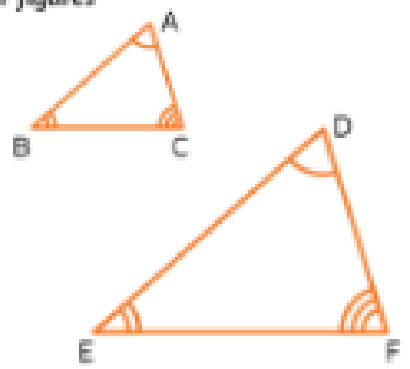




The corresponding sides of similar figures are **proportional.**

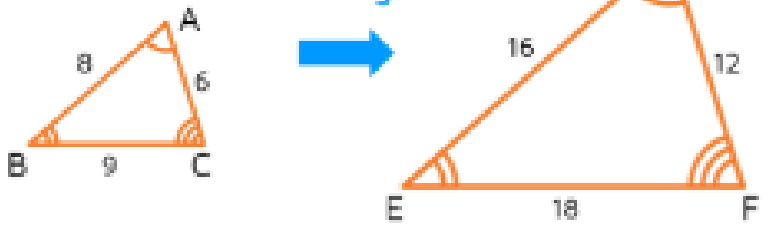
$$\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$$

The ratios of the corresponding sides are the same.

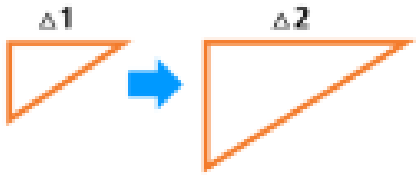


The scale factor of △ABC to △DEF is 2.

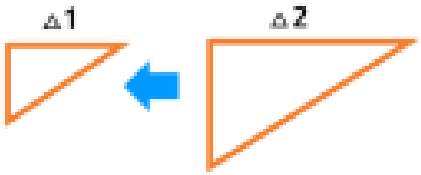
Multiply each side by 2



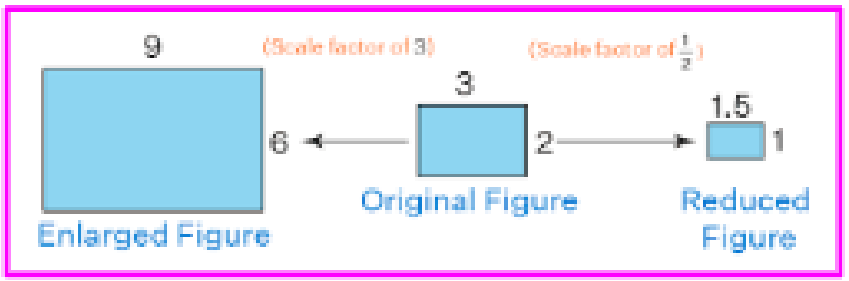
The Order is Important!



Getting Bigger:
The scale factor of △1 to △2 is larger than 1.



Getting Smaller:
The scale factor of △2 to △1 is a fraction smaller than 1.



Center 4: Geometry

Question 1 (7.G.1)

A building has a height of 125 meters and a length of 80 meters. On a scale drawing of the building, the height is 25 centimeters.

What is the length of the building on the scale drawing in centimeters?

F 55 cm

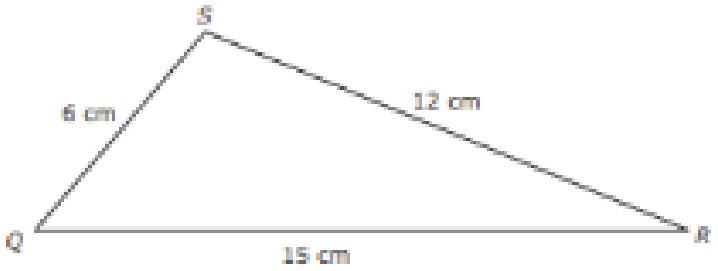
G 16 cm

H 20 cm

J 64 cm

Question 2 (7.G.1)

Triangle *QRS* and its dimensions are shown.



Which measurements in centimeters represent the dimensions of a triangle that is similar to triangle *QRS*?

A 8 cm, 14 cm, 17 cm

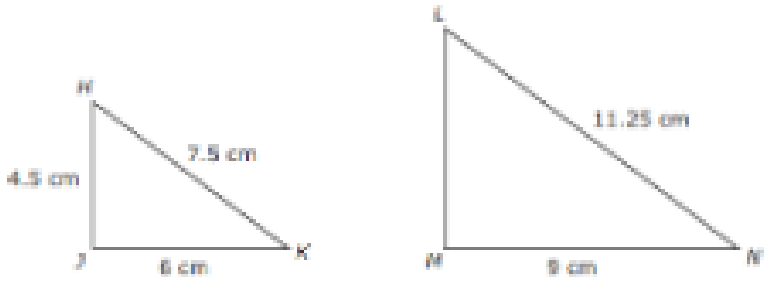
B 10 cm, 20 cm, 25 cm

C 4 cm, 10 cm, 13 cm

D 12 cm, 24 cm, 36 cm

Question 3 (7.G.1)

Triangle *HJK* is similar to triangle *LMN*.



Which proportion can be used to calculate the length of $\overline{DR}$ in centimeters?

A $\frac{7.5}{11.25} = \frac{LM}{4.5}$

B $\frac{6}{7.5} = \frac{LM}{9}$

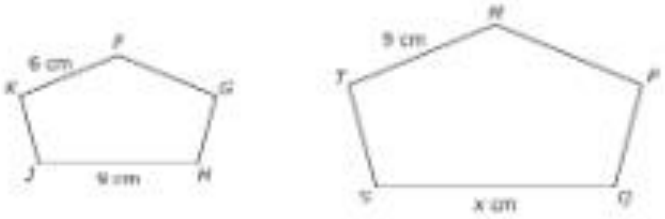
C $\frac{11.25}{LM} = \frac{4.5}{7.5}$

D $\frac{9}{LM} = \frac{6}{4.5}$

Center 4: Geometry

Question 4 (7.G.1)

Pentagon FGHJK is similar to pentagon MPQST.



What is the value of x?

A 13.5

B 12

C 9.5

D Not here

Question 5 (7.G.1)

An engineer created a scale drawing of a building using a scale in which 0.25 inch represents 2 feet. The length of the actual building is 250 feet.

What is the length in inches of the building in the scale drawing?

Question 6 (7.G.1)

A contractor is given a scale drawing of a rectangular patio. The scale from the patio to the drawing is 4 ft to 1 in. What is the area of the actual patio?

A 27 ft^2

B 54 ft^2

C 170 ft^2

D 192 ft^2

Early Finishers

7th Grade Math Mixed Practice #1

Directions: Read each question carefully and solve. Show work when applicable.

1 A clock face has a circumference of 39.88 cm .

Find the diameter of clock.

Use $\pi = 3.14$.

(A) 6.35 cm

(B) 12.7 cm

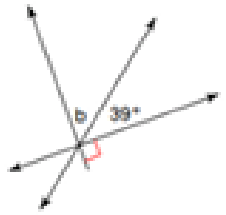
(C) 19 cm

(D) 25.40 cm

2) The side lengths 11 cm, 12 cm, and 23 cm form a triangle.

(A)True
(B) False

3 Find the measure of angle b.



b = ____ degrees

4) The expression $-4(2x-5)$ is equivalent to $4(-2x+5)$.

(A)True
(B) False

5) Solve for x.

$$4x-2=38$$

6) Ms. Streeter gave her class 12 minutes to read. Danielle read $5\frac{1}{2}$ pages in that time. At what rate, in pages per hour, did Danielle read?

7 What is the distance between - 3 and 12?

(A) 9

(B) - 9

(C) 15

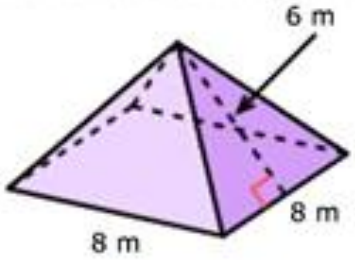
(D) - 15

8) A television, t, is on sale at a 30% discount. The expressions, $t-0.3t$ and $0.7t$, can be used to represent how to calculate the cost after the sale after the sale.

(A)True
(B) False

Early Finishers

9 Find the surface area of the figure below.



$\square$ m^2

10 The solution set of the inequality $12 - 13x \geq -1$ is

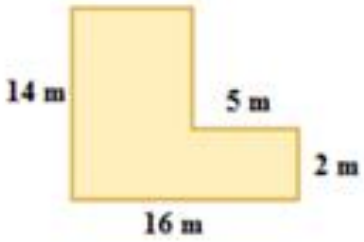
(A) $x \geq 1$

(B) $x \geq -1$

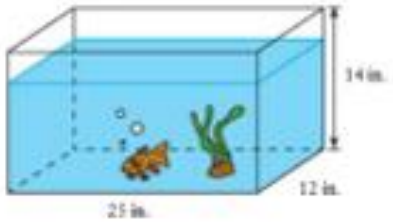
(C) $x \leq 1$

(D) $x \leq -1$

11 Find the area of the figure.



12) Find the volume of water needed to fill the $\frac{3}{4}$ of the aquarium.



EXIT TICKET

Directions: Answer the focus question of the two centers you completed today.

Center 1: How do I solve real-world and mathematical problems involving the four operations with rational numbers?

Center 2: How will I compare & compute unit rates associated with rational numbers and quantities measured in different units?

Center 3: How will learning mathematical vocabulary help me understand and explain mathematical procedures?

Center 4: What is scale factor and how will it help me understand how scale drawings are created?