

Eureka Math
&
Engage NY
End of Module Review
5th Grade
Module 5

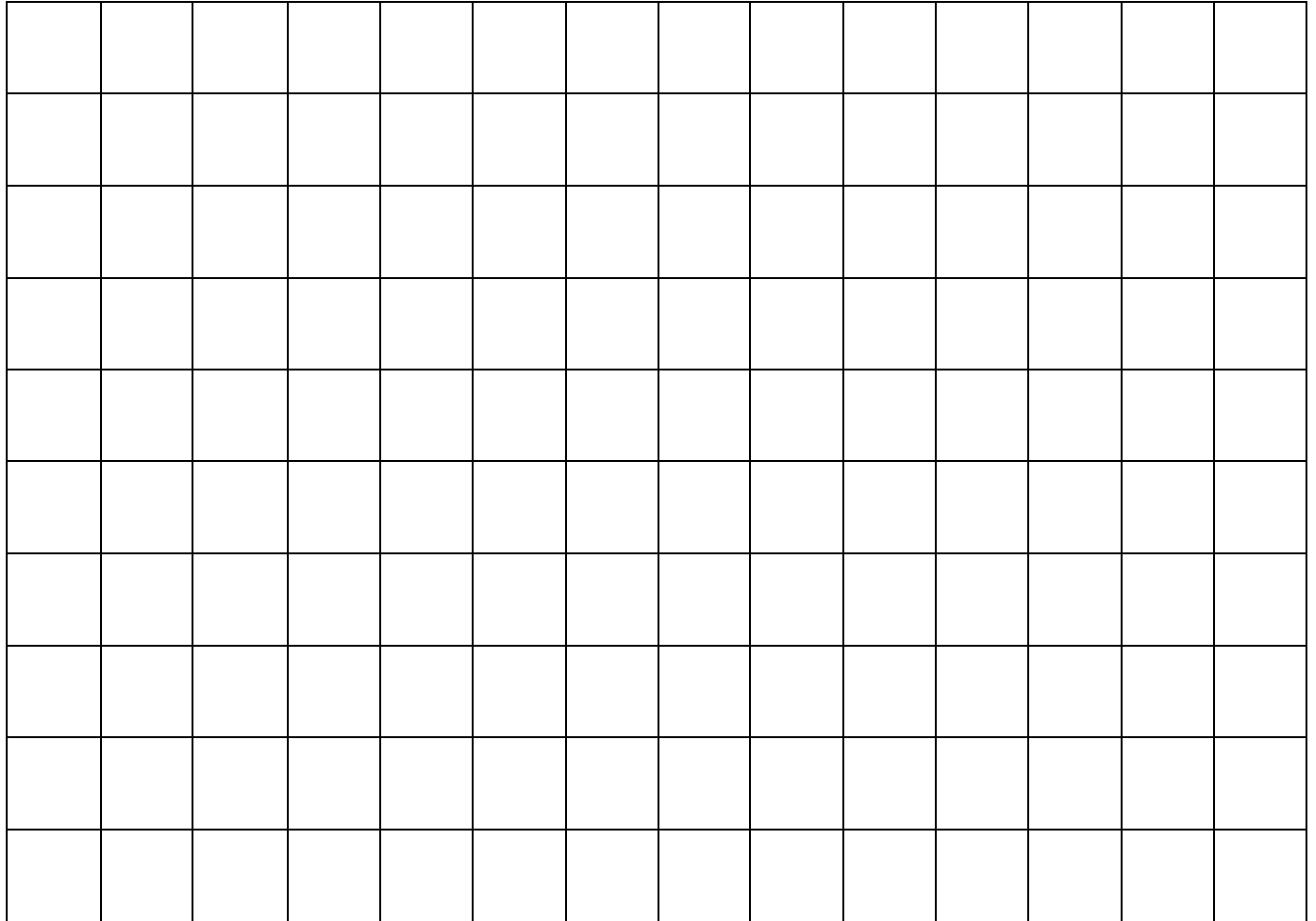
Created by: Andrea McDonald

<https://www.teacherspayteachers.com/Store/Windy-City-Teacher>

Name _____

Date _____

1. Use your ruler to draw a rectangle that measures $3\frac{1}{2}$ by $4\frac{1}{4}$ inches, and find its area.



2. Mary has a rectangular driveway. She measures it and finds out it is $14\frac{1}{4}$ feet long by $17\frac{1}{2}$ feet wide.
- a. She wants to know how many square feet of paint she will need to completely cover the driveway.
Draw the driveway, and label the measurements.

b. How much paint will Mary need to cover the driveway?

c. If each square foot of paint costs 40 cents, how much will she have to pay to cover her driveway?

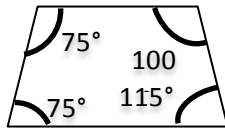
3. A rectangular pan that has a length of 20 cm, a width of 25 cm, and a height of 10 cm is filled with cake batter to a depth of 8 cm. When an additional 2.1 liters of batter is poured into the pan, some batter overflows. How many liters of batter overflow the pan? Use words, pictures, and numbers to explain your answer. (*Remember $1 \text{ cm}^3 = 1 \text{ mL}$.*)
4. Martha says that a $2\frac{1}{5}$ inch by $4\frac{1}{2}$ inch rectangle has a section that is 2 inches \times 4 inches and a section that is $\frac{1}{5}$ inch \times $\frac{1}{2}$ inches. That means the total area is just the sum of these two smaller areas, or $8\frac{1}{10} \text{ in}^2$. Why is Martha incorrect? Use an area model to explain your thinking. Then, give the correct area of the rectangle.

5. Peter and Paul built paper towers. Peter's tower had a 3-inch square base. Paul's tower had a 7-inch square base. If Peter's tower had a volume of 81 cubic inches and Paul's had a volume of 441 cubic inches, whose tower was taller? Explain your reasoning.

6. Read the statements. Each statement *is True*. Explain why the statement is true. Explain your statement for each using words and/or pictures.

- a. The following figure is not a trapezoid.

True



- b. The sum of the angle measures of any parallelogram is the same as the sum of the angle measures of any quadrilateral.

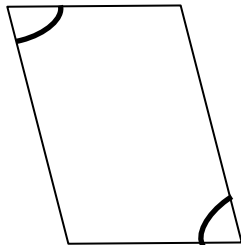
True

c. All parallelograms are quadrilaterals. True

d. Not all rhombuses are squares. True

e. Squares are rectangles. True

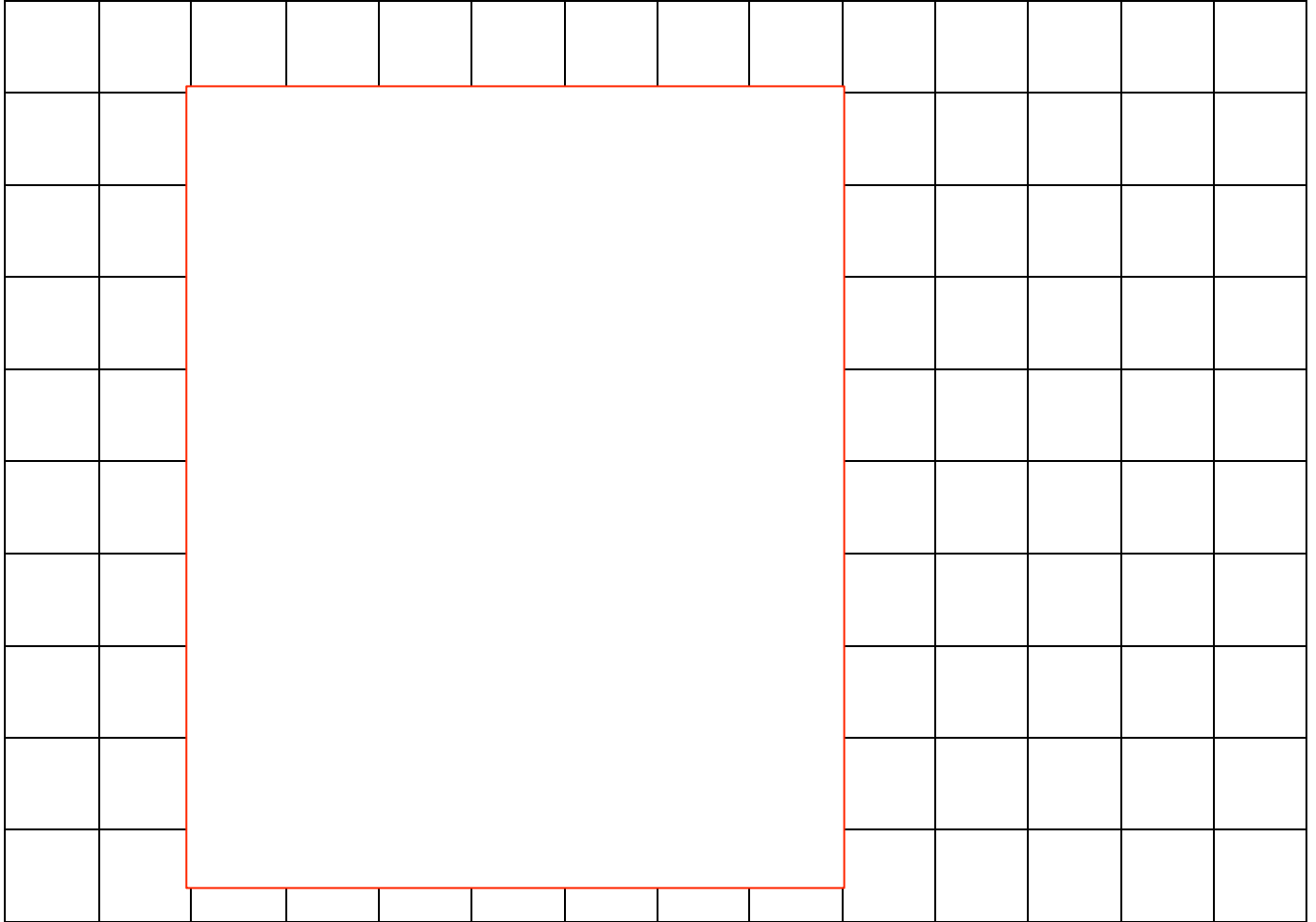
f. The opposite angles in a parallelogram have the same measure. True



g. Rectangles are parallelograms. True

Answer Key

1. Use your ruler to draw a rectangle that measures $3\frac{1}{2}$ by $4\frac{1}{4}$ inches, and find its area. 4pts= correctly answers and draws model, 3pts= draws model with calculation error, 2 pts= draws one dimension correctly but unable to find the area, 1pt = unable to draw rectangle or find area. (5.NF.4b)



$$\frac{7}{2} \times \frac{17}{4} = \frac{119}{8} = 14\frac{7}{8}$$

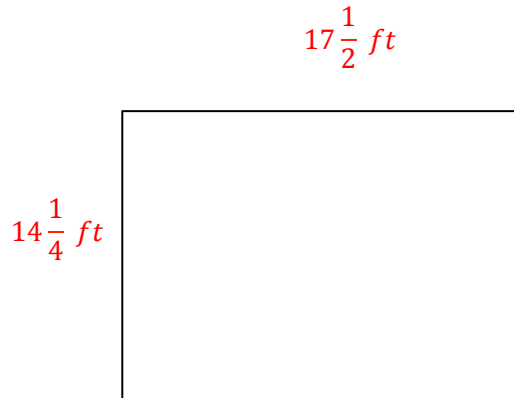
$$A = 14\frac{7}{8} \text{ in}^2$$

2. Mary has a rectangular driveway. She measures it and finds out it is $14\frac{1}{4}$ feet long by $17\frac{1}{2}$ feet wide.

4pts= correctly answers all 3 parts, 3pts= correctly answers 2 parts, 2 pts= correctly answers 1 part, 1pt = unable to correctly answer any part. (5.NF.4b, 5.NF.6)

- a. She wants to know how many square feet of paint she will need to completely cover the driveway.

Draw the driveway, and label the measurements.



- b. How much paint will Mary need to cover the driveway?

$$14\frac{1}{4} ft \times 17\frac{1}{2} =$$

$$\frac{57}{4} \times \frac{35}{2} = \frac{1995}{8} = 249\frac{3}{8}$$

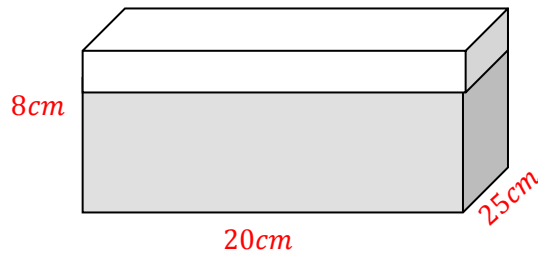
She will need $249\frac{3}{8} ft^2$ of paint to cover her driveway.

- c. If each square foot of paint costs 40 cents, how much will she have to pay to cover her driveway?

$$249\frac{3}{8} = 249.375$$

$249.375 \times .4 = 99.75$ Mary will have to pay \$99.75 to cover her driveway.

3. A rectangular pan that has a length of 20 cm, a width of 25 cm, and a height of 10 cm is filled with cake batter to a depth of 8 cm. When an additional 2.1 liters of batter is poured into the pan, some batter overflows. How many liters of batter overflow the pan? Use words, pictures, and numbers to explain your answer. (Remember $1 \text{ cm}^3 = 1 \text{ mL}$.) 4pts= correctly answers and explains, 3pts= calculation error with correct reasoning, 2 pts= finds volume with incorrect reasoning, 1pt = unable to find volume or give reasoning. (5.MD.3, 5.MD.5)



$$20 \times 25 \times 10 = 5,000$$

Volume of the pan is $5,000 \text{ cm}^3$

$$20 \times 25 \times 8 = 4,000$$

Volume of the batter is $4,000 \text{ cm}^3$

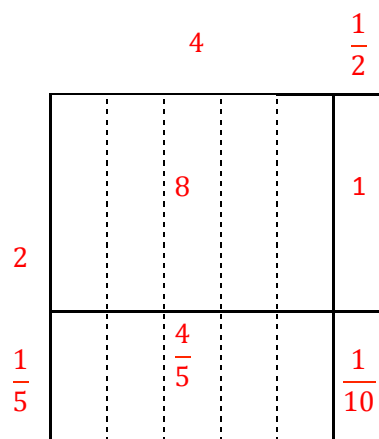
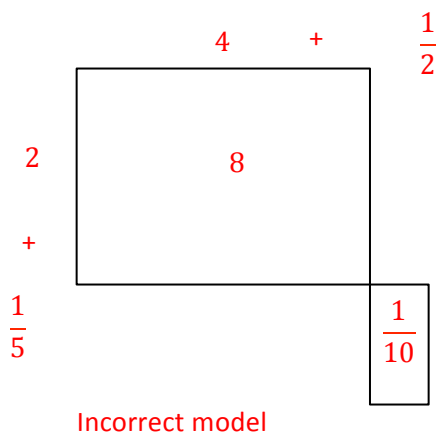
$$5,000 - 4,000 = 1,000$$

Room left in the pan is $1,000 \text{ cm}^3$ or 1.0L

$$2.1\text{L} - 1.0\text{L} = 1.1 \text{ L}$$

The batter overflowed by 1.1L or 1100 cm^3

4. Martha says that a $2\frac{1}{5}$ inch by $4\frac{1}{2}$ inch rectangle has a section that is 2 inches \times 4 inches and a section that is $\frac{1}{5}$ inch \times $\frac{1}{2}$ inches. That means the total area is just the sum of these two smaller areas, or $8\frac{1}{10} \text{ in}^2$. Why is Martha incorrect? Use an area model to explain your thinking. Then, give the correct area of the rectangle. 4pts= correctly draws model, explains error and calculates correctly, 3pts= correctly does 2 of the following: correctly draws model, explains error and calculates correctly, 2 pts= correctly does one of the following: correctly draws model, explains error and calculates correctly, 1pt = unable to draw rectangle or find area. (5.NF.4b, 5.NF.6)

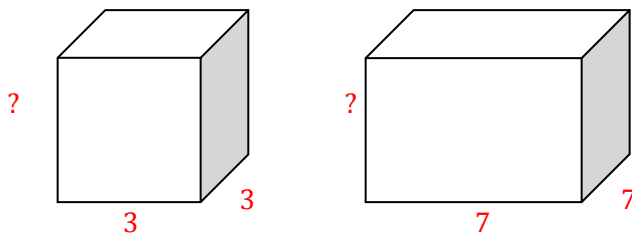


To find the area all sections of the area model needed to be added.

$$1 + 8 + \frac{4}{5} + \frac{1}{10} = 9\frac{9}{10}$$

The area of the rectangle is $9\frac{9}{10} \text{ in}^2$

5. Peter and Paul built paper towers. Peter's tower had a 3-inch square base. Paul's tower had a 7-inch square base. If Peter's tower had a volume of 81 cubic inches and Paul's had a volume of 441 cubic inches, whose tower was taller? Explain your reasoning. 4pts= correctly calculates the height and explains that they are both equal in height, 3pts= calculates the height but makes calculation error, but has solid reasoning, 2 pts= attempts to calculate both heights but reasoning is unclear, 1pt = unable to find heights or reason. (5.MD.5)



$$V = 81 \text{ in}^3 \quad 81 \div 9 = 9$$

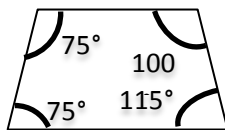
$$V = 441 \text{ in}^3 \quad 441 \div 49 = 9$$

Both tower have the same height as I divided the volumes by the base and both answers were 9 in^3

7. Read the statements. Each statement *is True*. Explain why the statement is true. Explain your statement for each using words and/or pictures. 4pts= correctly changes all 7 statements to true with clear explanations, 3pts= correctly provides a combination of 7 true statements or explanations, 2 pts= correctly provides a combination of 6 true statements or explanations, 1pt = correctly provides a combination of at least 3 true statements or explanations. (5.G.3, 5.G.4)

- a. The following figure is not a trapezoid.

True



When you add these angles up it is 365° and to be true the sum of trapezoids is 360° .

- b. The sum of the angle measures of any parallelogram is the same as the sum of the angle measures of any quadrilateral.

True

All parallelograms and quadrilaterals add up to be 360° .

- c. All parallelograms are quadrilaterals.
True

Parallelograms are a type of quadrilateral as they have 4 straight sides.

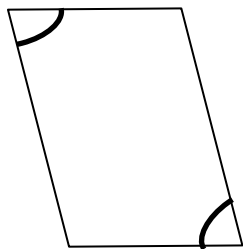
- d. Not all rhombuses are squares.
True

Rhombuses have 4 equal side with equal opposite angles. Rhombuses do not have to have 4 right angles. A square is a rhombus, but not all rhombuses are squares.

- e. Squares are rectangles.
True

Squares are rectangles as they have 4 straight sides and 4 right angles.

- f. The opposite angles in a parallelogram have the same measure.
True



Opposite angles in a parallelogram are always equal as the opposite sides are equal in length. All angles always add up to 360° .

- g. Rectangles are parallelograms.
True

Parallelograms have 4 straight sides therefore rectangles are parallelograms

