

10.1 I can identify corresponding parts of similar and congruent figures.

Given $\triangle JKL \sim \triangle PQR$, tell whether the statement is true or false.

1) $\angle Q$ and $\angle K$ are corresponding angles. **True**

2) $\angle R$ and $\angle L$ are corresponding angles. **True**

3) \overline{JK} and \overline{PQ} are corresponding sides. **True**

4) \overline{JL} and \overline{PR} are corresponding sides. **True**

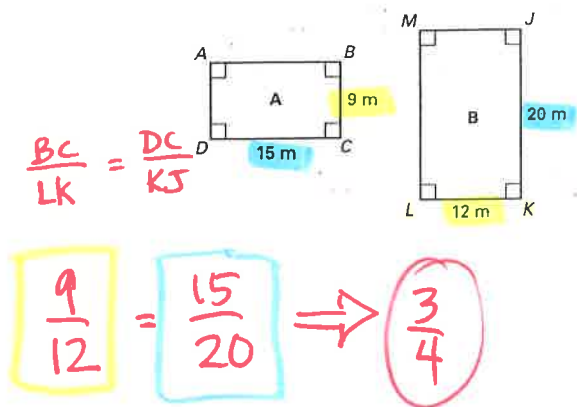
Given $\triangle ABC \cong \triangle DEF$, name the congruent angles and sides for the angles and sides given.

1) $\angle B \cong ?$ **$\angle E$**

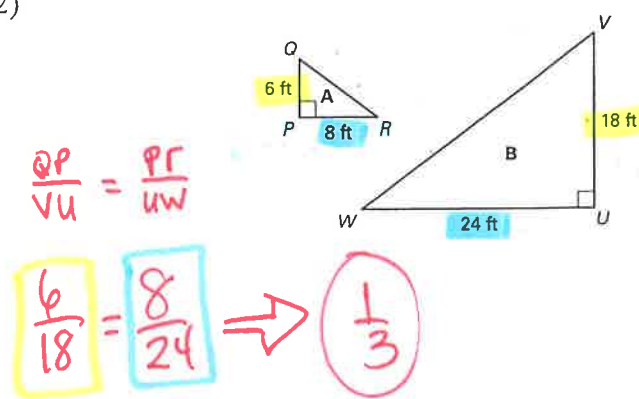
2) $\overline{AC} \cong ?$ **\overline{DF}**

10.1 I can write a ratio for corresponding sides of similar figures.

1)

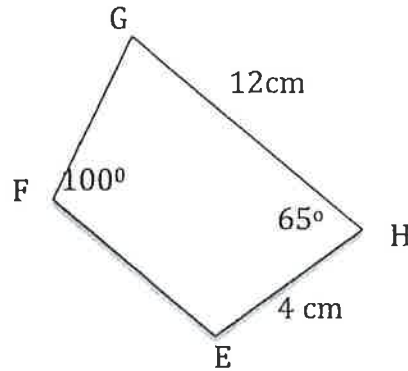
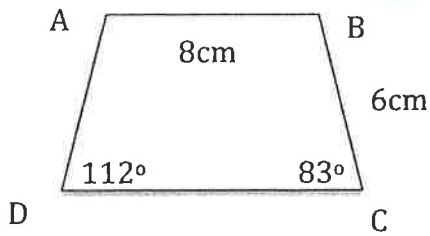


2)



10.1 I can find the missing measurements of congruent figures.

Given Quadrilaterals ABCD and EFGH are congruent. Find the measure of each missing angle and side:

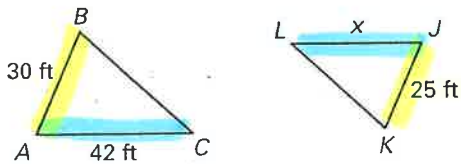


- 1) $\angle D = ?$ 65°
- 2) $\angle B = ?$ 100°
- 3) $\angle E = ?$ 112°
- 4) $\angle G = ?$ 83°
- 5) $\overline{EF} = ?$ 8cm
- 6) $\overline{FG} = ?$ 6cm
- 7) $\overline{AD} = ?$ 4cm
- 8) $\overline{CD} = ?$ 12cm

Score: _____ %

10.2 I can use proportions to determine unknown lengths of similar figures.

1) $\triangle ABC \sim \triangle JKL$

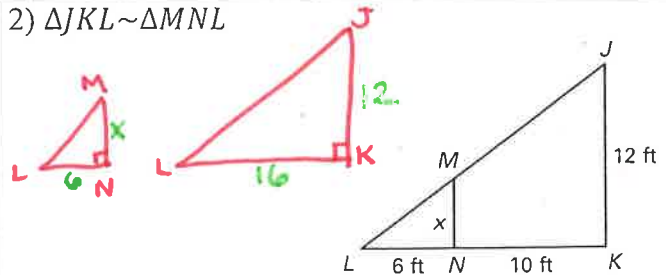


$$\frac{30}{25} = \frac{42}{x}$$

$$30x = 1050$$

$$x = 35\text{ft}$$

2) $\triangle JKL \sim \triangle MNL$

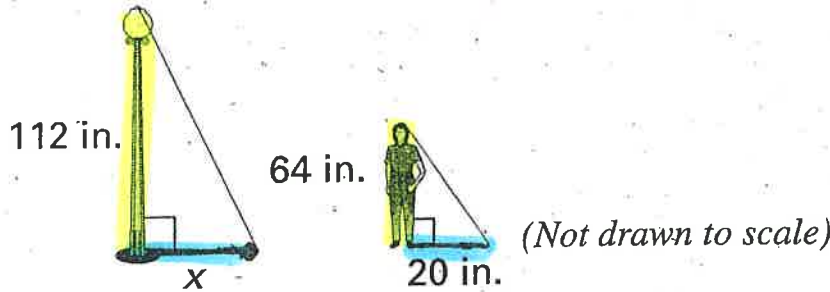


$$\frac{6}{16} = \frac{x}{12}$$

$$16x = 72$$

$$x = 4.5\text{ft}$$

3) A woman who is 64 inches tall is standing by a lamppost that has a height of 112 inches. The length of the woman's shadow is 20 in. What is the length of the lamppost's shadow?



$$\frac{112}{64} = \frac{x}{20}$$

$$64x = 2240$$

$$x = 35 \text{ inches}$$

Score: _____ %

10.3 I can use a scale to find actual dimensions and I can use actual dimensions to find the scale of a map/model.

A map has a scale of 1 inch : 8 miles. Use the given map distance to find the actual distance.

1) 42 inches

$$\frac{1 \text{ in}}{8 \text{ miles}} = \frac{42 \text{ in}}{x \text{ miles}}$$

$$x = 336 \text{ miles}$$

2) 1/2 inch

$$\frac{1 \text{ inch}}{8 \text{ miles}} = \frac{.5 \text{ in}}{x \text{ miles}}$$

$$x = 4 \text{ miles}$$

A map has a scale of 1 centimeter : 4 kilometers. Use the given actual distance to find the distance on the map.

3) 0.6 kilometers

$$\frac{1 \text{ cm}}{4 \text{ km}} = \frac{x \text{ cm}}{.6 \text{ km}}$$

$$4x = .6$$

$$x = .15 \text{ cm}$$

4) 12 kilometers

$$\frac{1 \text{ cm}}{4 \text{ km}} = \frac{x \text{ cm}}{12 \text{ km}}$$

$$4x = 12$$

$$x = 3 \text{ cm}$$

5) A model of the Transamerica Pyramid in San Francisco, California has a scale of 1:130. The height of the Transamerica Pyramid is 260 meters. Find the height of the model?

$$\frac{\text{Model}}{\text{actual}} \Rightarrow \frac{1}{130} = \frac{x}{260} \quad 130x = 260$$

$$\boxed{x = 2 \text{ units}}$$

3) A train model has a ratio of 1 cm : 8 feet. If the train model is 9 cm long, what is the actual length of the train?

$$\frac{\text{Model}}{\text{actual}} \Rightarrow \frac{1 \text{ cm}}{8 \text{ ft}} = \frac{9 \text{ cm}}{x \text{ feet}}$$

$$\boxed{x = 72 \text{ feet}}$$

Score: _____ %

10.4 I can create a scale drawing at a different scale.

1) A 4×7 rectangle is scaled by 3. What is the perimeter of the new figure?

$$\boxed{\text{Original Perimeter}} * \boxed{\text{SF}} = \boxed{\text{New Perimeter}}$$

$$4+7+4+7 * 3 = x$$

$$22 * 3 = \boxed{66 \text{ units}}$$

2) A square has a side length of 10 m. The square is scaled by $\frac{1}{5}$. What is perimeter of the new figure?

$$\boxed{\text{Original Perimeter}} * \boxed{\text{SF}} = \boxed{\text{New Perimeter}}$$

$$10+10+10+10 * \frac{1}{5} = x$$

$$40 * \frac{1}{5} = \boxed{8 \text{ meters}}$$

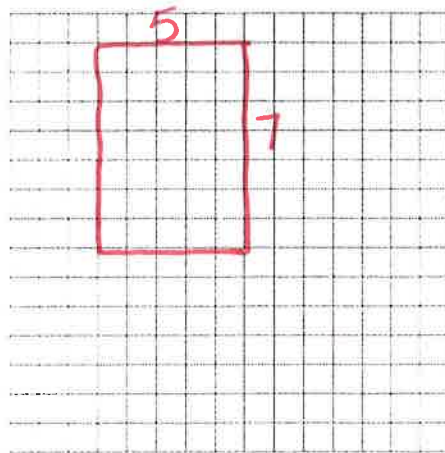
3) A rectangular garden is 15 feet by 21 feet. Mr. McGregor is planning his garden and needs to fit his garden on the grid so he can plan accordingly. Every unit represent 3 feet. Draw the new figure. What is the perimeter of the new figure?

$$\frac{1 \text{ unit}}{3 \text{ feet}} = \frac{x \text{ units}}{15 \text{ feet}}$$

$$x = 5 \text{ units long}$$

$$\frac{1 \text{ unit}}{3 \text{ feet}} = \frac{x \text{ units}}{21 \text{ feet}}$$

$$x = 7 \text{ units wide}$$



$$\text{Perimeter} = 5+7+5+7 = \boxed{24 \text{ units}}$$

4) A length of a side of a square is 0.02 mm. It is magnified under a microscope by 1000. Each 1 unit on the grid represent 2 mm. Draw the magnified square on the grid.

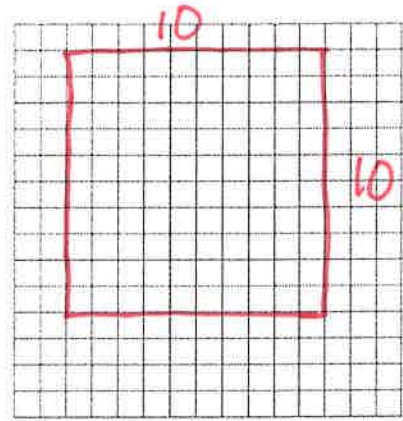
$$\frac{1 \text{ unit}}{2 \text{ mm}} = \frac{x \text{ units}}{20 \text{ mm}}$$

$$2x = 20$$

$$x = 10 \text{ units}$$

$$\text{Perimeter} = 10 + 10 + 10 + 10$$

$$40 \text{ units}$$



Score: _____ %

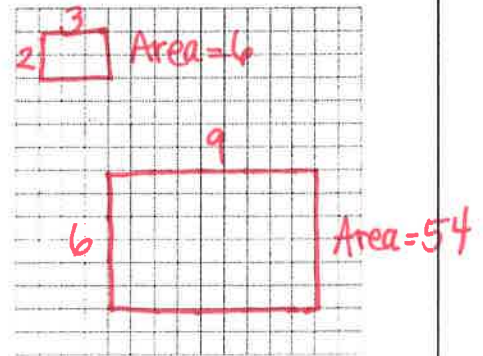
10.5 I can relate scale to area of similar figures.

	Original Dimensions	Original Perimeter	Original Area	Scale Factor	New Dimensions	New Perimeter	Square of the Scale Factor	New Area
1)	2 x 3	$2+3+2+3$ 10 units	6 units ²	2	4 x 6	20 units	4	24 units ²
2)	2 x 2	8 units	4 units ²	3	6 x 6	24 units	9	36 units ²
3)	6 x 12	36 units	72 units ²	$\frac{1}{3}$	2 x 4	12 units	$\frac{1}{9}$	8 units ²

4) Rectangle B is a scaled version of Rectangle A using a scale of 3. Rectangle A's area is what fraction of Rectangle B's area?

$$\boxed{\text{area of rectangle A}} \times \boxed{SF^2} = \boxed{\text{area of rectangle B}}$$

$$\underline{\quad} \times 9 = \underline{\quad}$$



Area of rectangle A = $\frac{1}{9}$ of rectangle B.

Score: _____ %

