Name: _____   Date: _____

Chapter 7 Review

For each type of question, the achievement level is indicated. Showing work is an important strategy in communicating your knowledge and ideas so please be thorough.

Learning Goal 7.1	I can convert between metric units in given problems.

1. Write out all the necessary metric prefixes **in order of magnitude** and the conversion factor to move from one to the next. (May I suggest you take this one **very** seriously 😊)

$$\times\ 10$$

milli   centi   deci   _____   deca   hecta   kilo

$$\div\ 10$$
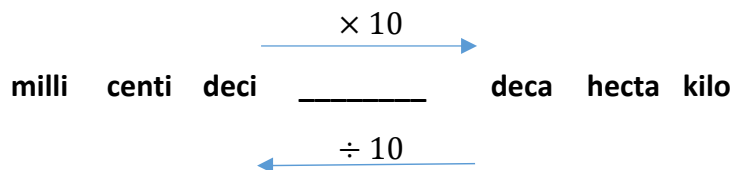
Developing			
2. Convert each measurement as indicated **without using a calculator**.			
a. 8 cm to mm	b. 10 km to m	c. 15 hm to m	d. 28 dam to dm
80 mm	**10 000 m**	**1 500 m**	**2 800 dm**
e. 75 m to mm	f. 30 dm to cm	g. 45 m to dam	h. 5 dm to mm
75 000 mm	**300 cm**	**4.5 dam**	**500 mm**
Proficient			
i. 8 cm to m	j. 10 g to kg	k. 100 mL to L	l. 15 hm to km
0.08 m	**0.01 kg**	**0.1 L**	**1.5 km**
m. 3000 mm to dam	n. 48.5 m to km	o. 38.7 L to mL	p. 0.85 kg to g
0.3 dam	**0.0485 km**	**0.0387 mL**	**0.00085 g**
Extending			
3. Convert the following measurements into a more appropriate metric unit.			
a. The diameter of an orange is 0.071 m.			
71 mm			
b. The African Bush Elephant is 3300 mm tall.			
3.3 m			
c. The Eiffel Tower is 0.324 km tall.			
324 m			
d. Ms. L is 0.00180 km tall.			
180 cm			

Name: _____   Date: _____

Chapter 7 Review

Name: _____   Date: _____

Chapter 7 Review

For each type of question, the achievement level is indicated. Showing work is an important strategy in communicating your knowledge and ideas so please be thorough.

Learning Goal 7.2	I can determine the scale factor of an enlargement or reduction and use it to enlarge or reduce an image.

Developing
1.   Decide whether the following are reductions or enlargements.

a. A photograph of a bicycle.	b. Looking through a microscope at a bacteria specimen.	c. Looking through a telescope at the moon.
Reduction	**Enlargement**	**Either** **Enlargement of the moon as you see it, or** **Reduction of the actual moon.**

Proficient
2.   Use graph paper to scale the following image by the given scale factor.

a. Scale factor = 2	b. Scale factor = $^1/_3$	c. Scale factor = 1

4.   A model train car is 8 cm long. An actual train car is 20 m long. What is the scale factor?
$$\frac{8}{2\,000} = \frac{0.08}{20} = \frac{1}{250}$$
5.   The side length of Triangle D is 6mm. The corresponding side length of Triangle F is 24 cm. What is the scale factor from F to D?
$$\frac{240}{6} = \frac{24}{0.6} = 40$$
6.   A lion stands 1.2 metres tall. A toy model of the lion is 4 cm tall. What is the scale factor?
$$\frac{4}{120} = \frac{0.04}{1.2} = \frac{1}{30}$$
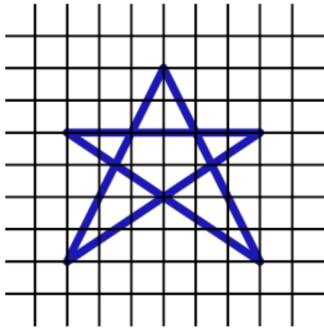
Name: _____   Date: _____

Chapter 7 Review

Extending
7. The side length of rectangle A is 5 metres. If the scale factor from A to B is 3, how long is the side length on rectangle B?
15 m
8. A scale drawing of a truck is drawn to a scale factor of $\frac{1}{8}$. How long is the actual truck if the scale drawing is 12 cm?
96 cm
9. Find the missing length if the scale factor from B to C is 2.

B ━━━━━━━━━ *z* m
C ━━━━━━━━━━━━━ 3 m

1.5 m

10. If I wanted to **enlarge** the heart, to put this on a **big** poster, what kind of value could I use for the scale factor?	11. If I wanted to **reduce** the lightning bolt, to make it into a **small** sticker, what kind of value would I use for the scale factor?
Anything bigger than 1	**Anything between 0 and 1**

Name: _____   Date: _____

Chapter 7 Review

For each type of question, the achievement level is indicated. Showing work is an important strategy in communicating your knowledge and ideas so please be thorough.
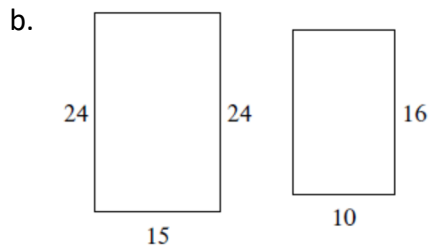
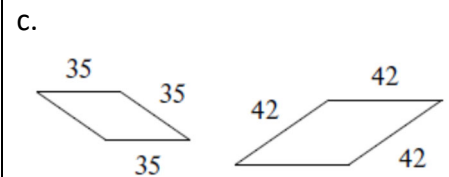| **Learning Goal 7.3**	I can solve problems involving similar polygons and triangles.

Developing

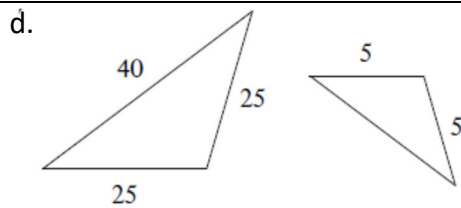1. Given that the following polygons are similar, find the scale factor.
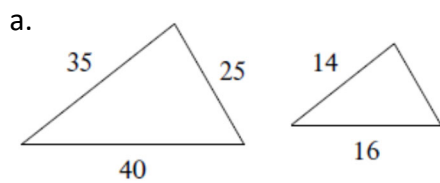
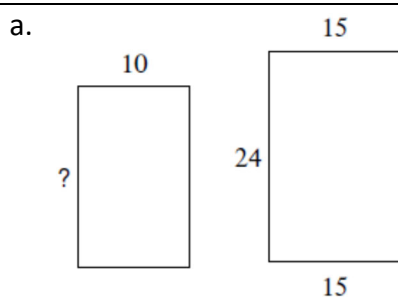| a.	b.	c.
$\dfrac{40}{16} = \dfrac{35}{14} = \dfrac{5}{2}$	$\dfrac{24}{15} = \dfrac{15}{10} = \dfrac{3}{2}$	$\dfrac{35}{42} = \dfrac{5}{6}$
d.	e.	f.
$\dfrac{25}{5} = 5$	$\dfrac{18}{6} = \dfrac{12}{4} = 3$	$\dfrac{14}{7} = 2$
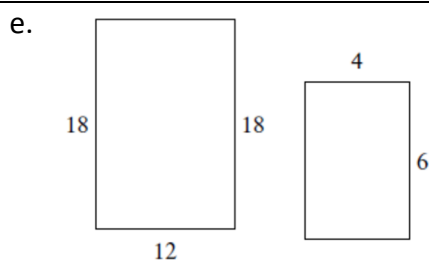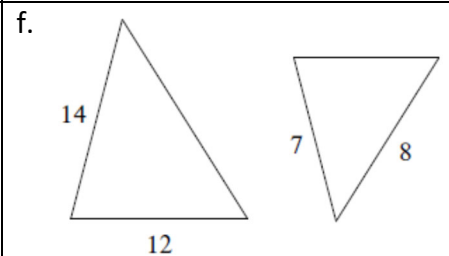
Proficient

2. Given that the following polygons are similar, find the missing side length.

a.	b.	c.
? = 16	? = 20	? = 10
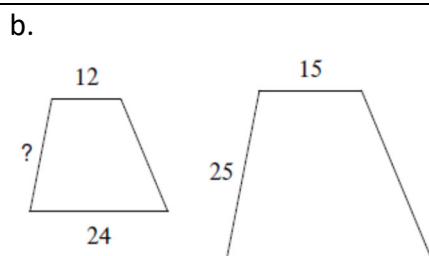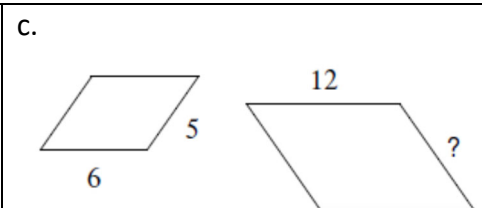
d.	e. Given that the scale factor from B to A is $1/7$.	f. Given that the scale factor from A to B is $3/2$.
? = 30	**? = 49**	**? = 6**

3. Decide whether the following triangles are similar, and provide the similarity statement (ex. $\Delta ABC \sim \Delta XYZ$)

a.	b.	c.
$\Delta ABC \sim \Delta HGF$	**$\Delta TUV \sim \Delta JKL$**	**Not similar**

d.	e.	f.
Not similar	**Not similar**	**$\Delta QRS \sim \Delta TUV$**

Extending
1. A photo of a gymnast is to be enlarged. The dimensions of the photo are 15 cm by 10 cm. What are the dimensions of the enlargement with a scale factor of $7/5$.
21 cm x 14 cm
2. A tree casts a shadow 8 m long. At the same time a 2 m wall casts a shadow 1.6 m long. What is the height of the tree (**hint** drawing a diagram will help!)
10 m
3. Jaya is 1.6 m tall. When her shadow is 2.0 m long, the shadow of the school's flagpole is 16 m long. How tall is the flagpole, to the nearest tenth of a metre?
12.8 m