

Name: _____

Date: _____

Unit 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 identify perfect squares and evaluate square roots.

Developing

1. Tell whether each number is a perfect square using prime factorization. For those that are, evaluate.

Proficient2. For those that are not, estimate the value of the radical to **one decimal place, without a calculator**.

a. $\sqrt{81} = \sqrt{3^4} = 9$	b. $\sqrt{100} = \sqrt{2^2 \times 5^2} = 10$	c. $\sqrt{400} = \sqrt{2^4 \times 5^2} = 20$
d. $\sqrt{169} = \sqrt{13^2} = 13$	e. $\sqrt{64} = \sqrt{2^6} = 8$	f. $\sqrt{576} = \sqrt{2^6 \times 3^2} = 24$
g. $\sqrt{150} =$ $\sqrt{2 \times 3 \times 5 \times 5} \approx 12.2$	h. $\sqrt{16} = \sqrt{2^4} = 4$	i. $\sqrt{256} = \sqrt{2^8} = 16$
j. $\sqrt{125} = \sqrt{5^3} \approx 11.2$	k. $\sqrt{200} = \sqrt{2^3 \times 5^2} \approx 14.1$	l. $\sqrt{180} = \sqrt{2^2 \times 3^2 \times 5} \approx$ 13.4
m. $\sqrt{121} = \sqrt{11^2} = 11$	n. $\sqrt{216} = \sqrt{6^3} \approx 14.7$	o. $\sqrt{140} = \sqrt{2^2 \times 5 \times 7} \approx$ 11.8
p. $\sqrt{49} = \sqrt{7^2} = 7$	q. $\sqrt{75} = \sqrt{3 \times 5^2} \approx 8.7$	r. $\sqrt{128} = \sqrt{2^7} \approx 11.3$

Proficient

3. How many whole numbers have a square root between 9 and 10.

20

4. How many whole numbers have a square root between 20 and 21.

42

ExtendingUse a number line to order these numbers from least to greatest, **without a calculator**.

5. $5, \sqrt{30}, 2, \sqrt{\frac{144}{9}}, \sqrt{\frac{144}{9}} < 2 < 5 < \sqrt{30}$

6. $\sqrt{55}, 7, \sqrt{\frac{9}{36}}, \sqrt{12}, \sqrt{\frac{9}{36}} < \sqrt{12} < 7 < \sqrt{55}$

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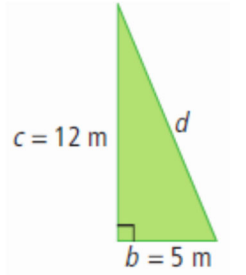
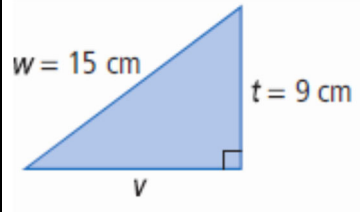
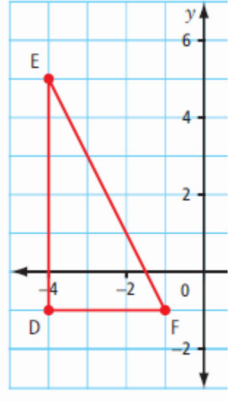
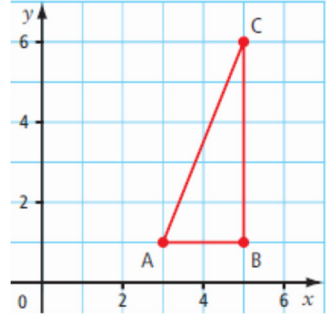
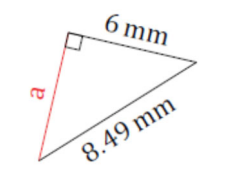
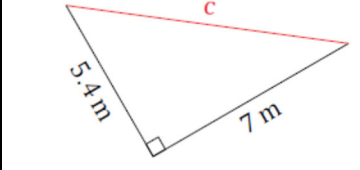
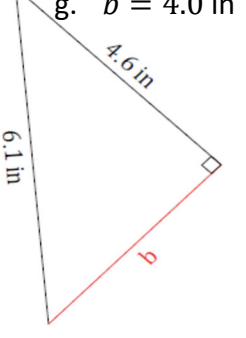
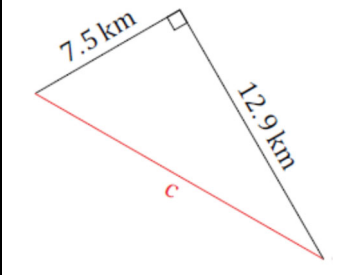
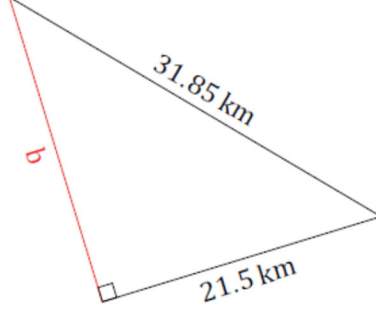
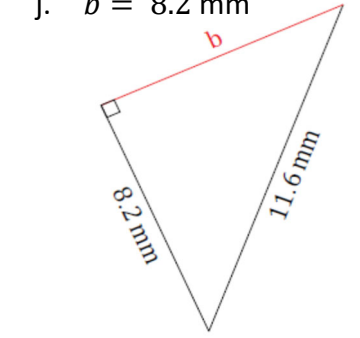
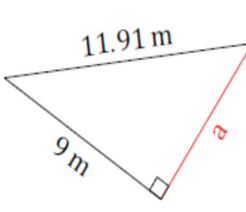
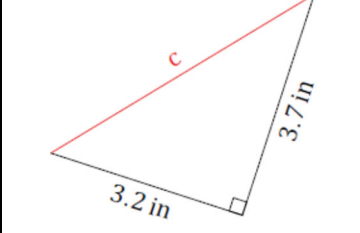
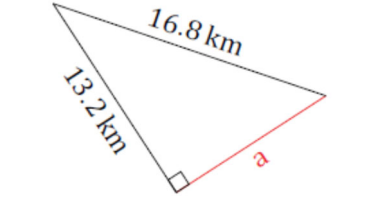
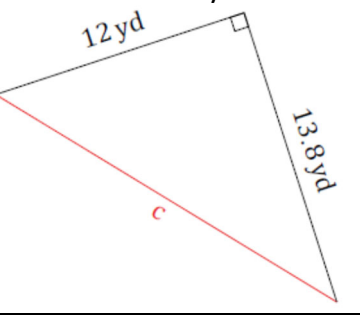
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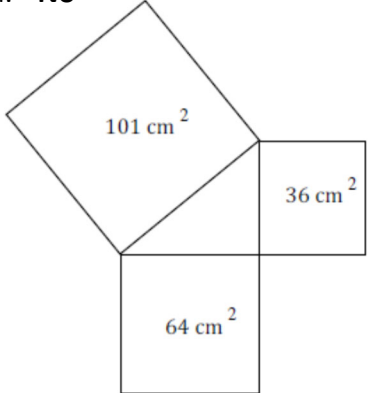
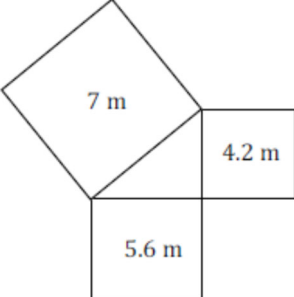
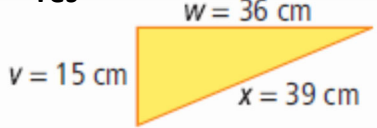
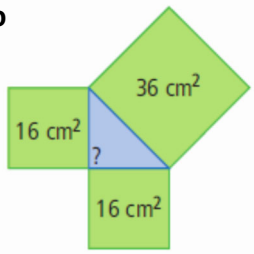
Learning Goal 7.2	I can find missing sides or identify right triangles using the Pythagorean Theorem.
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Developing			
1. Find the missing side length of each triangle. Express your answer to the nearest tenth of a unit.			
<p>a. $d = 13$ m</p> 	<p>b. $v = 12$ cm</p> 	<p>c. $EF = 6.7$</p> 	<p>d. $AC = 5.4$</p> 
<p>e. $a = 6.0$ mm</p> 	<p>f. $c = 8.8$ m</p> 		
<p>g. $b = 4.0$ in</p> 	<p>h. $c = 14.9$ km</p> 	<p>i. $b = 23.5$ km</p> 	<p>j. $b = 8.2$ mm</p> 
<p>k. $a = 7.8$ m</p> 	<p>l. $c = 4.9$ in</p> 	<p>m. $a = 10.4$ km</p> 	<p>n. $c = 18.3$ yds</p> 

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Proficient		
2. Is the following a right triangle? Explain.		
<p>a. No</p> 	<p>b. Yes</p> 	<p>c. Yes</p> 
<p>d. No</p> 		

Extending
<p>3. A 5-metre-long ladder rests against a wall. If the ladder reaches a distance of 4.1 m up the wall, how far is the base of the ladder from the wall? Draw a picture and solve. Round your answer to the nearest tenth of a metre.</p> <p style="text-align: center;">2.9 m</p>
<p>4. The rectangular pool at Edmonds has a length that measures 15 m and a diagonal that measures 17 m. A float line divides the shallow end and the deep end. What is the length of the float line? Draw a picture and solve.</p> <p style="text-align: center;">8 m</p>