

# Unit 6: Triangle Geometry Practice Test

Math 9 Principles

Name: \_\_\_\_\_ Block: \_\_\_\_\_

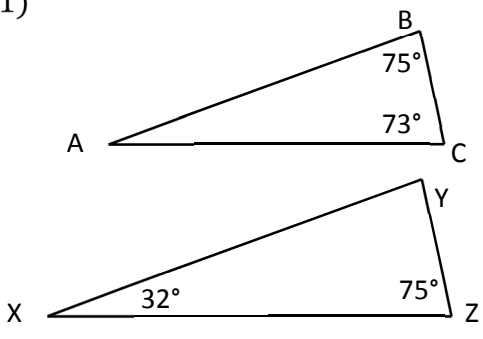
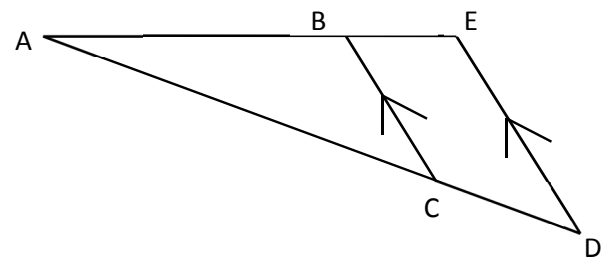
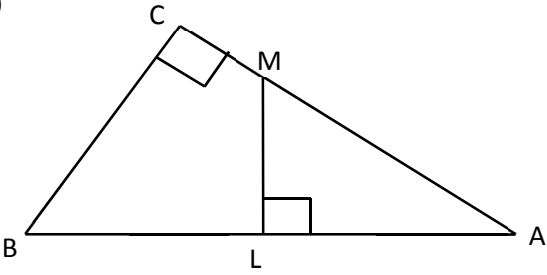
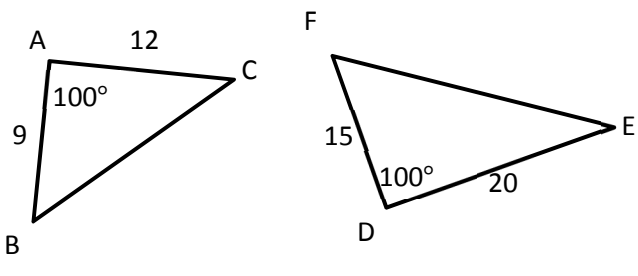
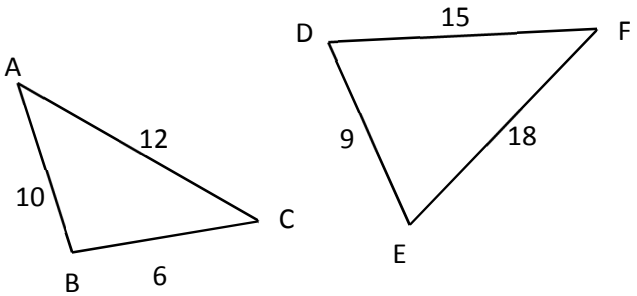
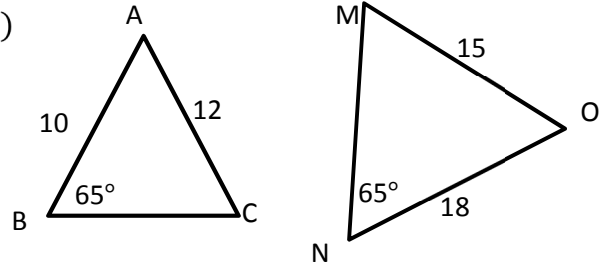
Please initial this box to indicate you carefully read over your test and checked your work for simple mistakes.

	What I can do in this unit	Level
6-1	I can recognize similar triangles using the Angle Test, the Side Ratio Test, and the Side-Angle-Side test.	
6-2 C	I can solve for missing lengths in similar triangles using proportion equations.	
6-3 C	I can use the Pythagorean Theorem to solve for missing sides in right angled triangles.	
6-4 C	I can evaluate the sine, cosine, and tangent ratio in right angled triangle and use this to find missing sides and angles. (Remember to identify the opposite, adjacent, and hypotenuse)	
6-5	I can determine the area of a triangle using the formula $A = \frac{1}{2}ab \sin C$ .	

Code	Value	Description
N	Not Yet Meeting Expectations	I just don't get it.
MM	Minimally Meeting Expectations	Barely got it, I need some prompting to help solve the question.
M	Meeting Expectations	Got it, I understand the concept without help or prompting.
E	Exceeding Expectations	Wow, nailed it! I can use this concept to solve problems I may have not seen in practice. I also get little details that may not be directly related to this target correct.

**6-1 I can recognize similar triangles using the Angle Test, the Side Ratio Test, and the Side-Angle-Side test.**

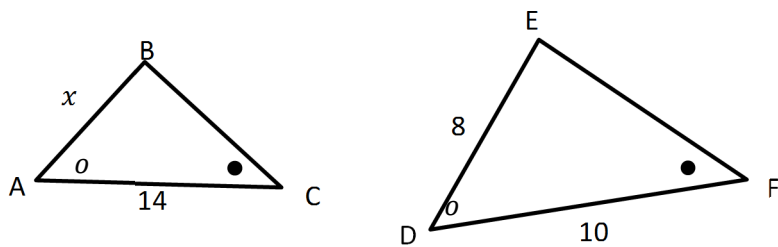
Make the correct statement of similarity in each, unless they are not similar:

<p>1)</p> 	<p>2)</p> 
<p>3)</p> 	<p>4) In <math>\triangle ABC</math>, <math>\angle A = 28^\circ</math>, <math>\angle B = 82^\circ</math>. In <math>\triangle DEF</math>, <math>\angle D = 28^\circ</math>, <math>\angle E = 70^\circ</math>. Sketch each and state any similarity.</p>
<p>5)</p> 	<p>6) In <math>\triangle ABC</math>, <math>AB = 8</math>, <math>BC = 12</math>, <math>AC = 18</math>. In <math>\triangle DEF</math>, <math>DE = 20</math>, <math>EF = 30</math>, <math>DF = 45</math>. Calculate the corresponding side ratios and state any similarity.</p>
<p>7)</p> 	<p>8)</p> 

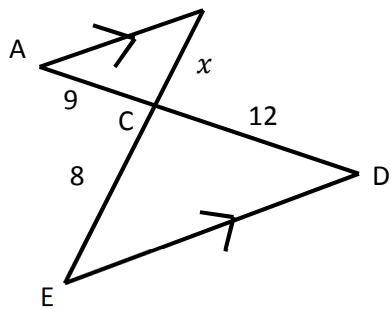
**6-2 I can solve for missing lengths in similar triangles using proportion equations.**

Find the value of  $x$  each triangle. State each similarity statement.

9)

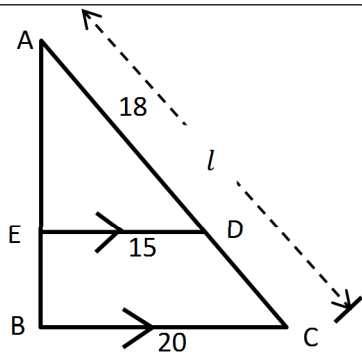


10)



For each problem, write the statement of similarity and solve for each unknown using a proportion equation. Show all work.

11)

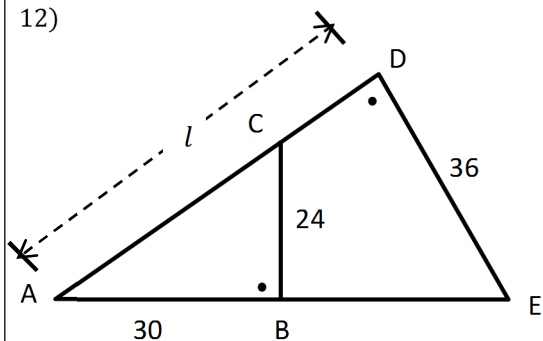


Similarity:

Proportion Equation:

(Solve for  $l$ )

12)



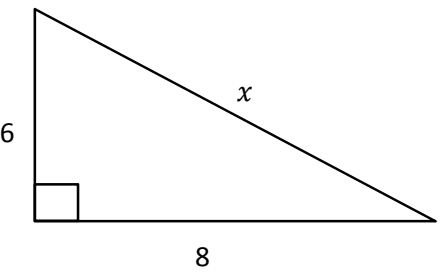
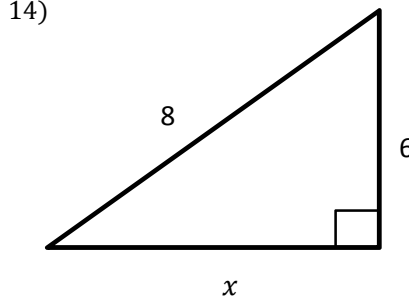
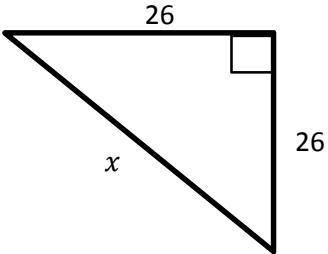
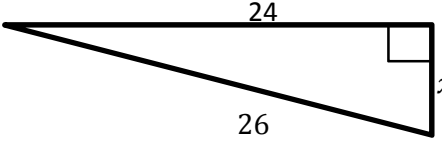
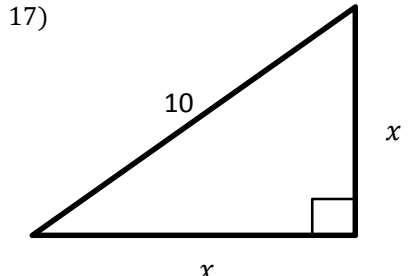
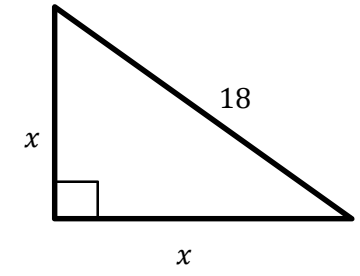
Similarity:

Proportion Equation:

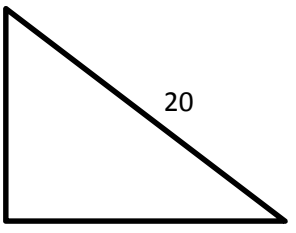
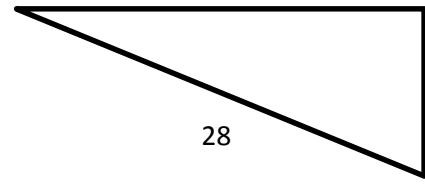
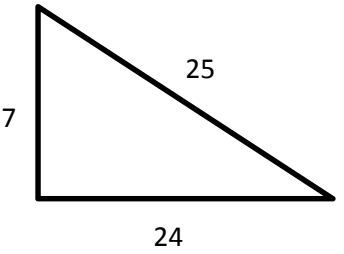
(Solve for  $l$ )

**6-3 I can use the Pythagorean Theorem to solve for missing sides in right angled triangles.**

Solve for the indicated missing side lengths. Round to the nearest tenth. Show all your work.

<p>13)</p> 	<p>14)</p> 	<p>15)</p> 
<p>16)</p> 	<p>17)</p> 	<p>18)</p> 

Determine whether or not these are right angled triangles. Show all your work.

<p>19)</p> 	<p>20)</p> 	<p>21)</p> 
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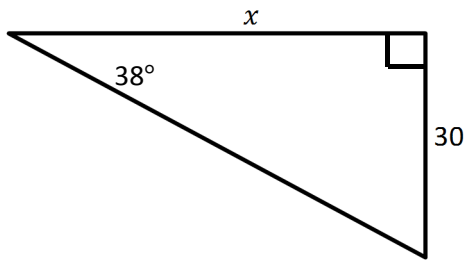
Solve using the Pythagorean Theorem. Make a diagram, label the dimensions, and solve.

22) From point A, travel 12 km north then travel 6 km west, turn south and travel 26 km. How far are you from point A? Round to the nearest tenth.

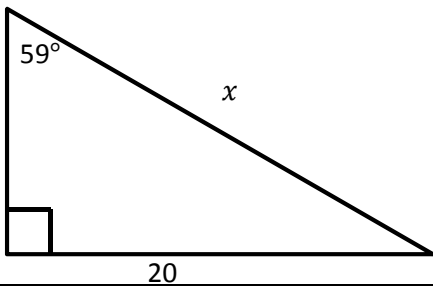
**6-4** I can evaluate the sine, cosine, and tangent ratio in right angled triangle and use this to find missing sides and angles. (Remember to identify the opposite, adjacent, and hypotenuse)

Solve for  $x$  or  $\theta$  as indicated. Round to the nearest tenth.

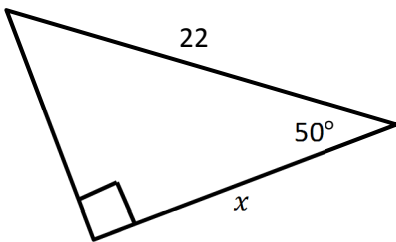
23)



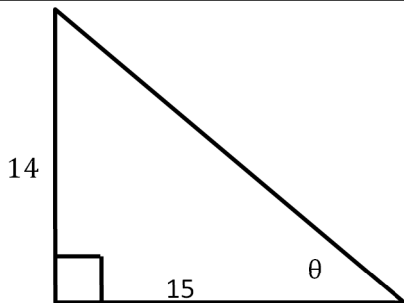
24)



25)



26)

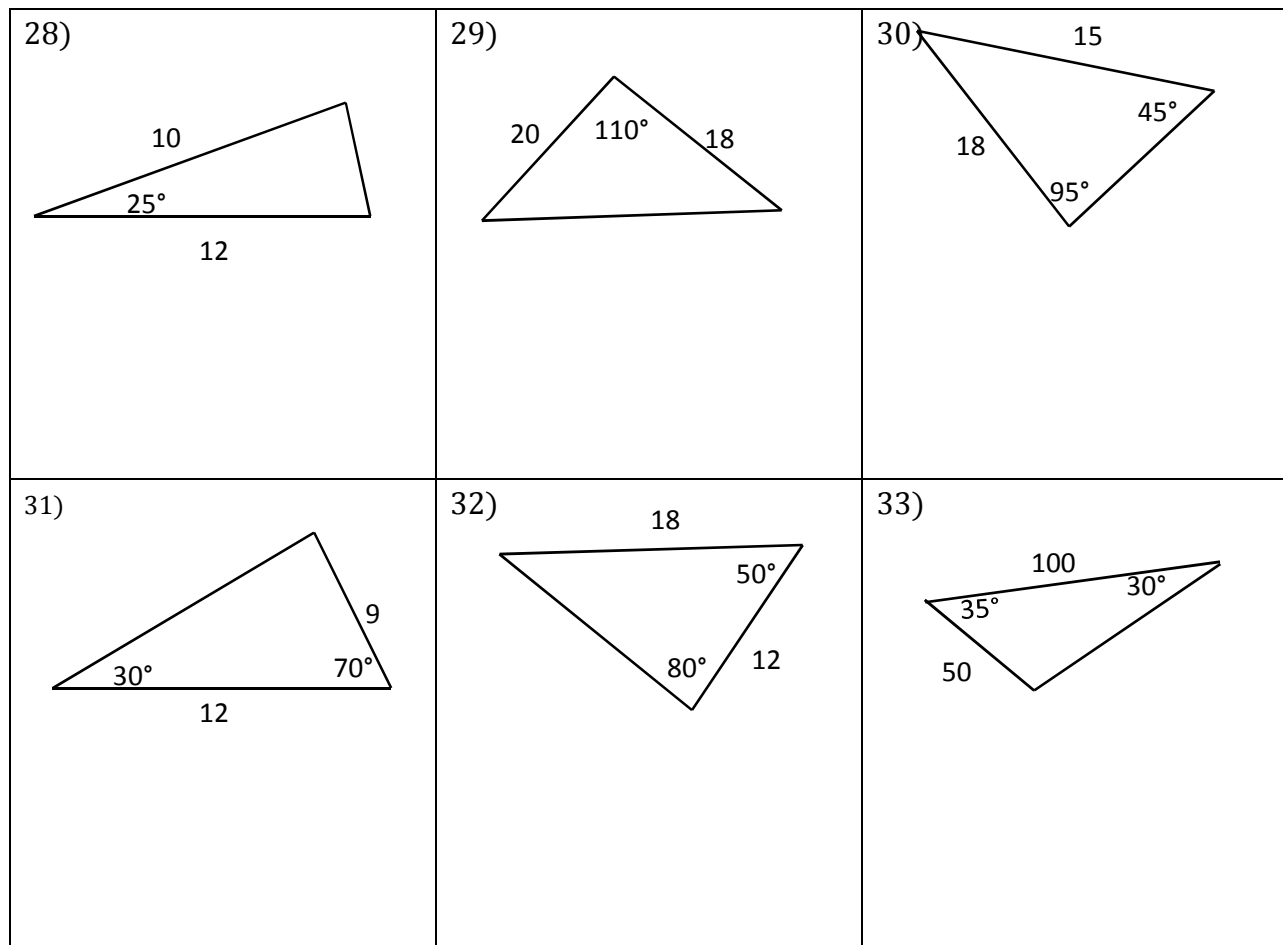


27)



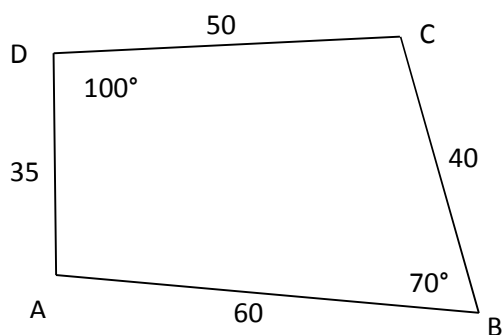
6-5 I can determine the area of a triangle using the formula  $A = \frac{1}{2} ab \sin C$ .

Find the area for each triangle. Round to the nearest tenth.



Solve each question. Round all answers to the nearest tenth.

1) Find the area of quadrilateral ABCD.



2) Find the area of an equilateral triangle with side lengths of 24.