Name: _____ Date: _____

Chapter 4 Prerequisite Skills

BLM 4–1
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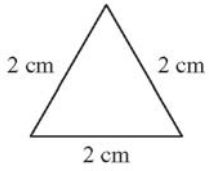
Classifying Triangles

1. Classify each triangle by its sides.

a)



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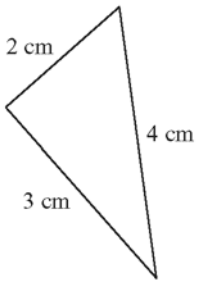

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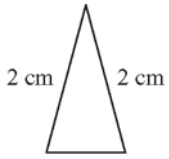


Angle Sum of a Triangle

2. For each triangle, create a labelled sketch. Then, determine the indicated unknown value.

a) In $\triangle ABC$, $\angle A = 20°$, and $\angle B = 50°$. Determine the missing angle.

b) $\triangle DEF$ is equilateral. Find the measures of all angles.

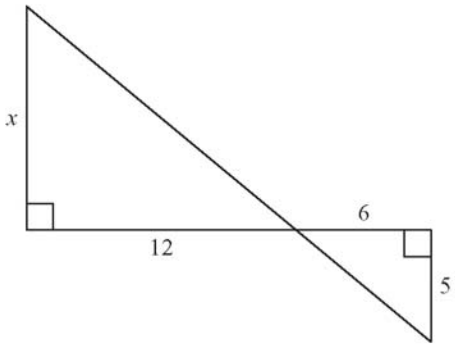
c) In $\triangle GHI$, $HG = GI$, and $\angle H = 50°$. Determine the measures of the other two angles.

d) $\triangle JKL$ is isosceles and $\angle L = 90°$. Find the measure of the other two angles.

Use Similar Triangles

3. Use similar triangles to determine the unknown value in each figure.

a)



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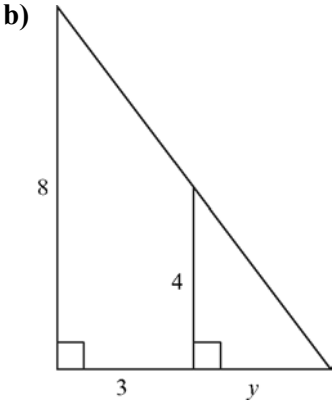
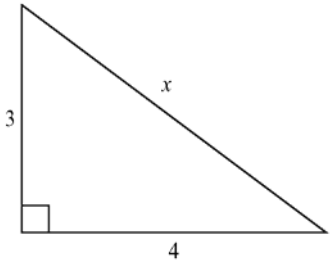


Use the Pythagorean Theorem

4. Determine the measure of the unknown side in each triangle.

a)



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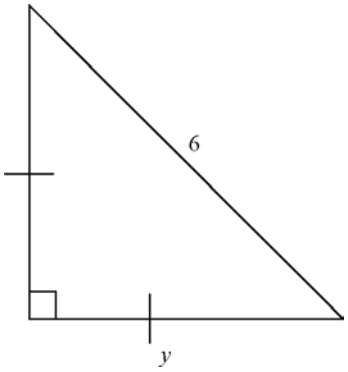

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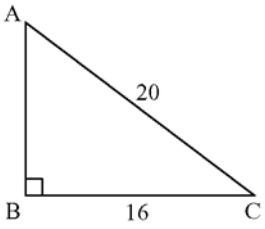
Find Primary Trigonometric Ratios

5. For each triangle, determine the primary trigonometric ratios for ∠A and ∠C.

a)



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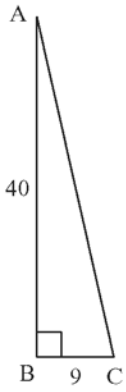


6. Use a calculator. Find the value for the three primary trigonometric ratios for the given angles, to four decimal places.

a) 90° **b)** 180° **c)** 135°

Determine an Angle Given a Trigonometric Ratio

7. Find each angle measure, to the nearest degree.

a) cos A = 0.8314

b) $\sin B = \frac{2}{3}$

c) $\tan C = \sqrt{3}$

Apply Trigonometric Ratios to Problems

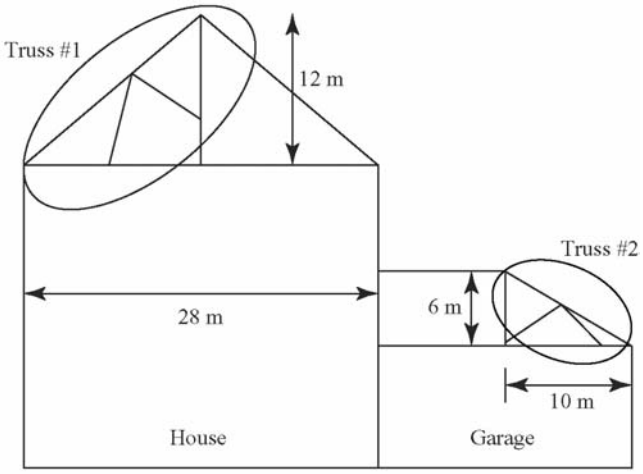
8. In △ABC, ∠B = 90°, ∠A = 60°, and b = 12 cm.

a) Sketch the triangle and mark all given measurements.

b) Determine the length of side AB.

c) Determine the measure of ∠C.

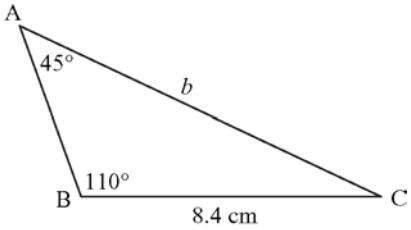
9. To build a secure roof truss (a structure that supports a roof), the angle that the truss makes with the horizontal should be no more than 45°. Richard is an architect who has just completed the plans for a new a house. Show that the roof trusses he has designed for the house will be secure.



Apply the Sine Law and the Cosine Law

10. In △ABC, ∠A = 85°, ∠B = 35°, and AC = 15 cm. Determine the length of side AB to the nearest centimetre.

11. Determine the length of side b.



12. In △DEF, d = 23.2 cm, f = 18.5 cm, and ∠D = 105.2°

a) Find the length of side DF.

b) Find the measure of ∠E and ∠F, to the nearest tenth of a degree.

13. You are given all side lengths in △DEF. The question asks you to find the measure of ∠D. Which trigonometric tool would you use?

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