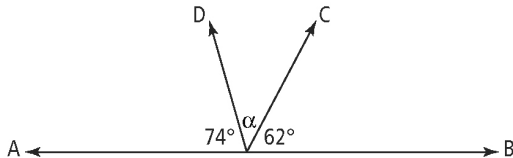Name: _____   Date: _____

Chapter 2 Prerequisite Skills

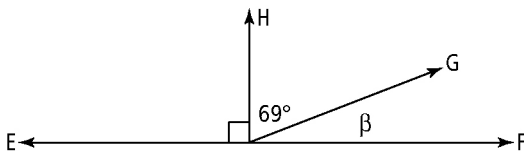**1.** Draw an example for each type of angle.

   a) acute angle   **b)** straight angle

   c) right angle   **d)** obtuse angle

2. For each diagram, determine the measure of the unknown angle.

   a)

   b)

   c)

   d)

   e)

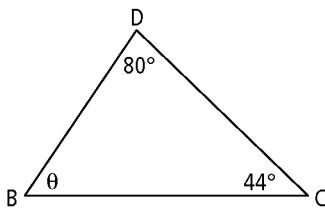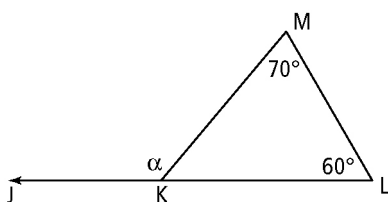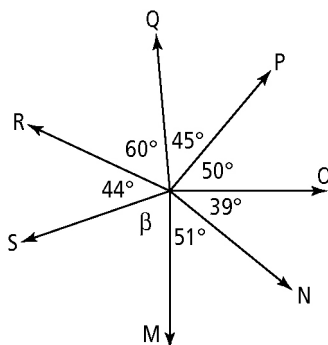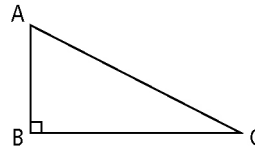**3.** Use the diagram to help answer the questions.

   a) Name the angle at vertex A in two different ways.

   b) What are two different ways to express the hypotenuse in $\triangle ABC$?

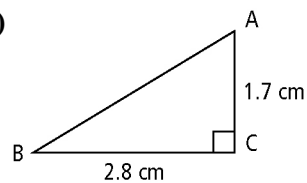   **c)** Express the Pythagorean relationship for $\triangle ABC$ in two ways.

   d) What is an expression for sin A?

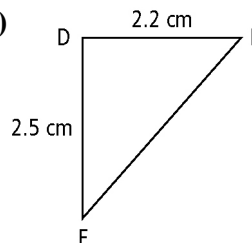   **e)** Write the equation for tan C.

   f) If $\cos C = \dfrac{a}{b}$, what is an expression for a?

4. Determine the length of the unknown side in each right triangle. Give the answer to the nearest tenth of a centimetre.
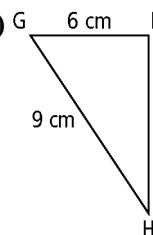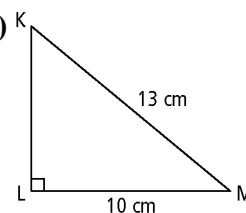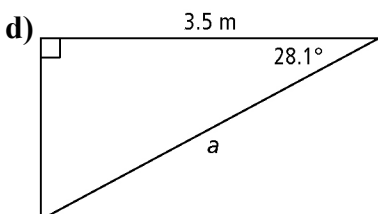
   a)

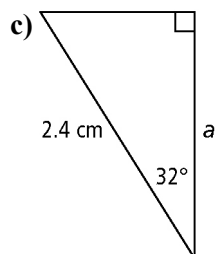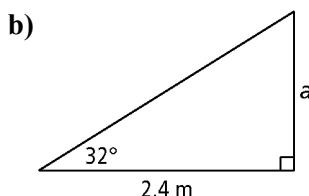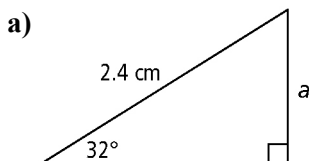

   b)

   c)

   d)

5. A reflex angle is an angle of more than 180°. You can also say that a reflex angle is between two right angles and four right angles.
  a) Draw an example of a reflex angle.
  b) Express the measure of a reflex angle in degrees.
  c) Use inequalities to express the measure of a reflex angle.

6. Estimate and draw each angle measure. Then, use a protractor to measure each angle. Express the difference between your measurement and the indicated angle as a percent of the indicated angle.
  a) 30°   **b)** 75°
  c) 135°   **d)** 240°

7. For each triangle, determine the length of side *a*. Give your answer to the nearest tenth of a unit.
  a)

  b)

  c)

  d)

8. Determine the numerical value for each expression, to two decimal places.
  a) 4.5 tan 60°   **b)** 4.5 cos 60°
  c) $\dfrac{\sin 56°}{3.9}$ **d)** $\dfrac{(3.1 \tan 45°)}{\cos 78°}$
  e) $4.9 + \dfrac{\tan 70°}{\cos 7°}$ **f)** $\dfrac{\sin 84°}{\cos 30°} - 0.56$

9. Determine the measure of each angle, to the nearest degree.
  a) tan C = 0.75   **b)** tan B = 2.5108
  c) cos θ = 0.6779   **d)** cos A = $\dfrac{3}{8}$
  e) sin α = $\dfrac{1}{2}$ **f)** sin β = 0.873

10. A 21-cm drinking straw leans against one side of a glass. The glass has a height of 15 cm and a diameter of 7 cm. How far does the straw extend beyond the glass? Give your answer to the nearest centimetre.

11. Ben and Sophie are skiing at Holiday Mountain Ski Resort located at La Riviere, MB. The beginner's slope is inclined an average of 12.1° from the horizontal. One advanced run has an average angle of elevation of 27.3°. Ben skis 1000 m down the beginner's slope and Sophie skis 1000 m down the advanced run.
  a) Draw a diagram to represent the situation.
  b) Determine the difference in the vertical distances the two friends ski. Give your answer to the nearest metre.