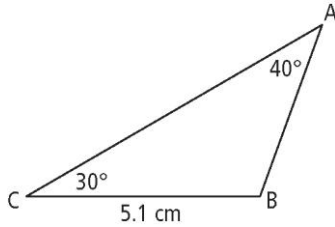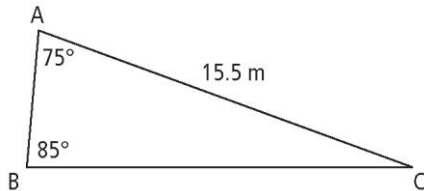# Chapter 2 Part 2 Review   Section 2.3

Where necessary, express lengths to the nearest tenth of a unit and angle measures to the nearest degree.

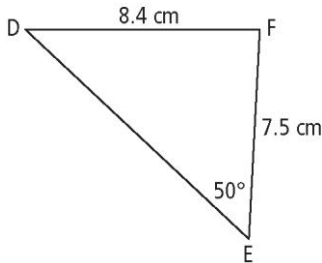1. Determine the length of AB in each triangle.
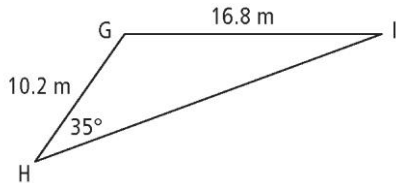   a)

   b)

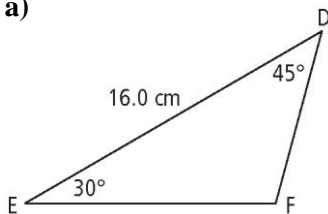2. Determine the measure of the indicated angle.
   a) ∠D

   b) ∠G

3. Sketch each triangle. vDetermine the indicated value.
   a) In △ABC, AB = 80 m, AC = 100 m, and ∠B = 40°. Determine ∠C.
   b) In △PQR, PQ = 15.1 cm, ∠P = 25°, and ∠Q = 70°. Determine QR.

4. Solve each triangle by determining the unknown sides and angles.
   a)

   b)
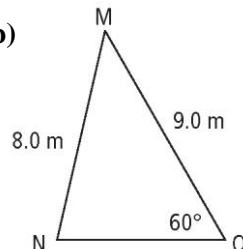
5. Sketch each triangle. Then, determine the unknown side and angles. If two solutions are possible, give both.
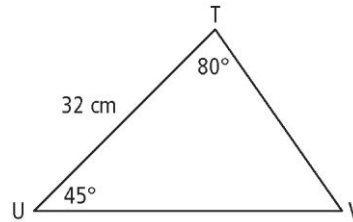   a) In △ABC, AB = 15 m, BC = 5 m, and ∠A = 20°.
   b) In △PQR, PQ = 12.5 cm, QR = 13.0 cm, and ∠P = 103°.
   c) In △DEF, DE = 8.0 cm, EF = 6.0 cm, and ∠D = 40°.
   d) In △RST, RS = 4.3 mm, ST = 4.0 mm, and ∠R = 65°.
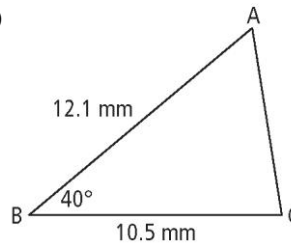
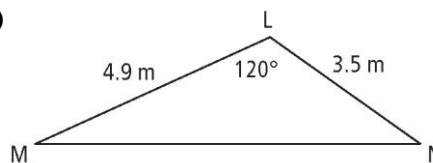6. Determine the area of △TUV, to the nearest square centimetre.

Section 2.4

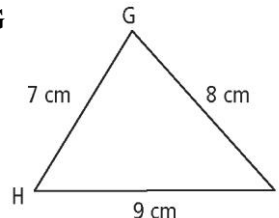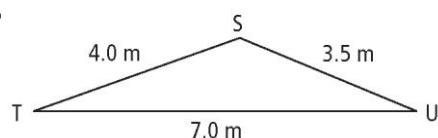1. Determine the length of the unknown side of each triangle.
   a)

   b)

2. Determine the measure of the indicated angle.
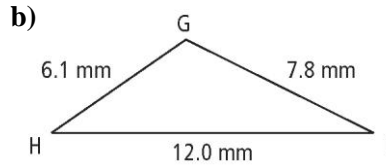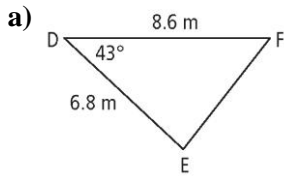   a) ∠G

   b) ∠T

3. Make a sketch to show the given information for each triangle. Then, determine the indicated value.

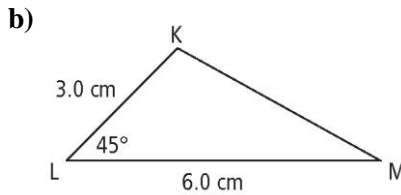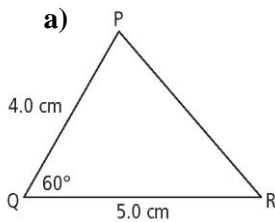   **a)** In △ABC, AB = 7 cm, AC = 7 cm, and ∠A = 60°. Determine the length of BC.

   b) In △DEF, DE = 14.6 cm, EF = 12.0 cm, and DF = 18.5 cm. Determine the measure of ∠D.

4. Determine the length of the unknown side and the measure of the unknown angles.

   a)

   8.6 m

   D ⟋ 43° ⟍ F

   6.8 m

   E

   b)

   G

   6.1 mm   7.8 mm

   H   12.0 mm   I

5. Determine the exact length of the unknown side in each triangle.

   a)   P

   4.0 cm

   60°

   Q   5.0 cm   R

   b)   K

   3.0 cm

   45°

   L   6.0 cm   M

6. A golf green is 6 m wide. Within what angle must a player hit the ball in order to land on the green from a position about 20 m from the green?

   20 m

   20 m
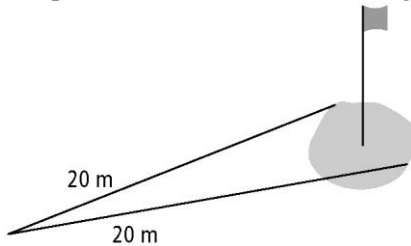
Answers   Section 2.3

1. a) 4.0 cm **b)** 5.3 m **2. a)** 43° **b)** 125°

3. a) 31° **b)** 6.4 cm

4. a) ∠F = 105°; DF = 8.3 cm; EF = 11.7 cm

b) ∠N = 77°; ∠M = 43°; NO = 6.3 m

5. a) no solution

b) ∠Q = 7°; ∠R = 70°; PR = 1.6 cm

c) First triangle: ∠F = 59°; ∠E = 81°; DF = 9.2 cm Second triangle: ∠F = 121°; ∠E = 19°; DF = 3.0 cm

d) First triangle: ∠T = 77°; ∠S = 38°; RT = 2.7 mm Second triangle: ∠T = 103°; ∠S = 12°; RT = 0.9 mm

6. 435 cm^2

Section 2.4

1. a) 7.9 mm **b)** 7.3 m **2. a)** 73° **b)** 20°

3. a) 7 cm **b)** 40°

4. a) 5.9 m; ∠E = 85°; ∠F = 52°

b) ∠G = 119°; ∠H = 35°; ∠I = 26°

5. a) $\sqrt{21}$ cm **b)** $\sqrt{45-18\sqrt{2}}$ cm **6.** 17°