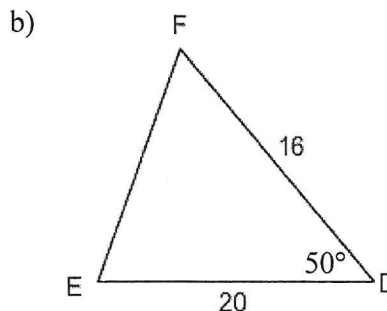
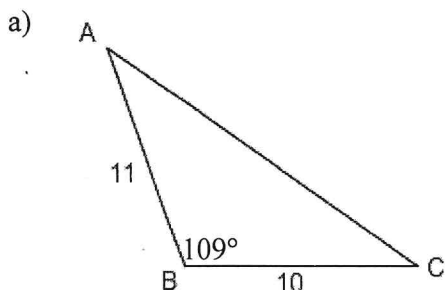


The Cosine Law

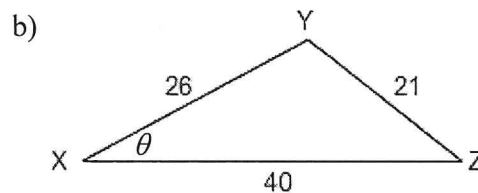
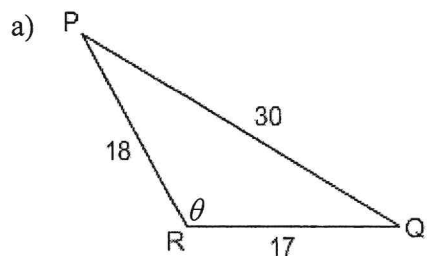
1. Find the third side or each triangle to 1 decimal place.



2. Use the given information to find the third side of $\triangle ABC$.

- a) $\angle B = 40^\circ$, $a = 12$, $c = 8$
 b) $\angle A = 130^\circ$, $b = 30$, $c = 22$
 c) $\angle C = 95^\circ$, $a = 9$, $b = 13$

3. Find θ to 1 decimal place.



4. For a triangle with the sides of the given lengths, find to 1 decimal place the measure of:

- i) the smallest angle ii) the largest angle
 a) 7, 9, 14 b) 14, 55, 61

5. Use the given information to find the third side of $\triangle JKL$.

- a) $\angle K = 72^\circ$, $j = 4.3$, $l = 2.9$
 b) $\angle J = 112^\circ$, $JK = 25$, $JL = 33$
 c) $\angle L = 98^\circ$, $JL = 17.4$, $KL = 21.3$

6. A squash player hits the ball 2.1 m to the side wall. The ball rebounds at an angle of 140° and travels 4.4 m to the front wall. How far is the ball from the player when it hits the front wall? Answer rounded to 1 decimal place.
7. A plane flying from Vancouver to Edmonton, a distance of 830 km. A navigational error was discovered and it was determined the plane had flown 17° off course from the beginning of the flight for 450 km. How far was the plane from Edmonton when the error was discovered? Answer rounded to 1 decimal place.
8. Hugh is an avid golfer. On a 180 m hole, he hits his tee shot 170 m and then sinks his 30 m chip shot. At what angle did he slice his tee shot? Answer rounded to 1 decimal place.
9. The goal posts in a football game are 4 m apart. A field goal kicker attempts to score a field goal by kicking the ball from a point 25 m from the top of one goal post and 28 m from the top of the other goal post. Within what angle must the kick be made so the ball goes between the goal posts? Answer to the nearest degree.
10. The length of the sides of a triangular parcel of land is approximately 400m, 600m, and 800m. Approximate the area of the parcel of land to the nearest tenth of square metre.

ANSWERS

1a) 17.1 b) 15.6

2a) 7.8 b) 47.2 c) 16.4

3a) 118.0° b) 28.1°

4a) i) 25.2°

ii) 121.6°

4b) i) 12.5°

ii) 108.9°

5a) 4.4 b) 48.3 c) 29.3

6) 6.2m

7) 420.8km

8) 9.3°

9) 6°

10) 116 189.5 m^2