

# Trigonometry Practice Problems Answers

## Build Your Skills – Page 290

6.  $x = 8.0$  cm,  $y = 6.7$  cm
7. 12.5 feet from the base of the house
8. diagonal distance is 216.3 m. Distance saved is 83.7 m

## Practise Your New Skills – Page 295

1. convert measurements to inches. 76" x 102". Diagonal is 127.2" or 10 ft, 7.2 in.
2. 14.4 metres from base
3. ramp is 11.1 metres long
4. tv is 41 inches wide
5. boat is 50.9 km from starting point

## Build Your Skills – Page 298

1. a) 0.62                      b) 0.54
2. a) 0.1736                      b) 0.7431                      c) 0.8828                      d) 0.9744
3.  $\sin 90$  degrees is 1. Opposite and Hypotenuse are the same side!
4. a)  $a = 8.2$  cm                      b)  $x = 3.8$  cm
5. 15 ft is the hypotenuse. 7 feet high at peak.
6. 8.6 metres above the ground.
7. a)  $h = 14.3$  mm                      b)  $h = 12.9$  cm
8. guy wire is 5.3 metres long
9. boat travels 22 metres
10. 404.5 metres from the house
11. length of road is 203.9 metres
12. top of slide is 1.9 metres above ground

# Trigonometry Practice Problems Answers

## Practise Your New Skills – Page 306

1. a)  $\sin A = 0.6371$       b)  $\sin B = 0.7191$
2. a)  $x = 17.9$  cm      b)  $y = 12.5$  cm
3. ramp reaches 5.5 metres up.
4. platform is 8.6 metres high
5. man is 41.7 m north of starting point

## Build Your Skills – Page 310

1. a) 0.9205      b) 0.1219      c) 0.7071      d) 0.7986
2. a)  $x$  is 8.2 cm      b)  $x$  is 1.7 cm      c)  $x = 8.6$       d)  $x = 12.2$  cm
3. 5.4 m from base of flagpole
4. field is 9.8 yards wide
5. side of pyramid is 6.2 m long
6. bridge line is 14.1 metres
7. 11.6 metres long
8. airplane travels 502 km

## Practise Your New Skills – Page 315

1. a)  $x = 3.6$  cm      b)  $a = 4.8$  cm      c)  $r = 9.5$  cm      d)  $l = 3.1$  m
2. 17.3 metres from base of barn
3. slant height is 23.7 m
4. balloon travelled 1.24 km
5. car travelled 8.49 km
6. assume clothesline sags evenly from both ends. Length is 3.42 m.

## Build Your Skills – Page 320

1. a)  $x$  is 9.5 m      b)  $a$  is 22.4 in      c)  $r$  is 2.4 m      d)  $p$  is 7.9 ft
2. boat is about 412 m from the cliff.
3. sand pile height is 2.1 m.

# Trigonometry Practice Problems Answers

## Practise Your New Skills – Page 321

1. add height of man to get tree height.  $19.2 + 1.7 = 20.9$  so about 21 m tall.
2. smaller building is 9 m tall.
3. foot of ladder is 5.5 ft from base of house.
4. tower is 141.1 m tall.
5. about 12.9 ft from corner
6. river is 373 metres across

## Build Your Skills – Page 325

1. a)  $33^\circ$                       b)  $26^\circ$                       c)  $67^\circ$                       d)  $89^\circ$
2. about  $61^\circ$
3. about  $62^\circ$
4. angle of depression is about  $54^\circ$
5. approx.  $38^\circ$
6. about  $51^\circ$
7. r is 7.3 m, q is 4.9 m, LQ is  $42^\circ$
8.  $40^\circ$ , base is  $5.82 \times 2 = 11.64$  cm, sides are 17 cm long
9. width is  $2 \times 5.3 = 10.6$  yards, peak is  $1.4 \text{ yds} + 3.5 = 4.9$  yards total height
10. a)  $R = 28^\circ$ ,  $S = 62^\circ$ ,  $t = 3.2$  m                      b)  $l = 6.6$  cm,  $M = 45^\circ$ ,  $L = 45^\circ$
11. height of pole is 8 m, cable is attached 16 m away
12.  $b = 17.8$  cm,  $a = 23.3$  cm,  $d = 12$  cm,  $c = 16$  cm

## Practise Your New Skills – Page 333

1. a)  $A = 31^\circ$  b)  $B = 48^\circ$
2. first leg is 26 cm, second leg is 65 cm
3. angle of elevation is  $18.4^\circ$
4. maximum height is 24.1 ft, 6.5 ft from granary
5. driveway is 4.7 m long, entrance is 3.6 m into the lot
6. angle of elevation is  $31^\circ$ .