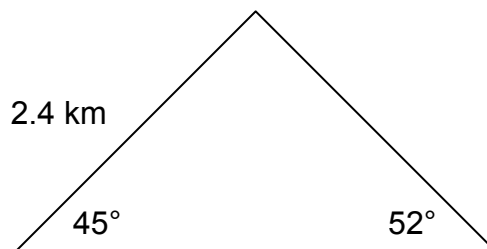


MPM2D – Exam Review – Unit 5

Unit 5 – Trigonometry

Please round all side lengths to the nearest hundredth (two decimal places) and all angles to nearest degree.

1. Solve each triangle.
 - a. $\triangle RST$ where $R = 90^\circ$, $t = 9$, and $s = 15$ m
 - b. $\triangle LMN$ where $N = 90^\circ$, $L = 35^\circ$, and $n = 25$ cm
 - c. $\triangle PQR$ where $R = 73^\circ$, $Q = 32^\circ$, and $r = 23$ mm
 - d. $\triangle XYZ$ where $x = 3.2$ inches, $y = 4.5$ inches, and $Z = 87^\circ$
2. A ramp is 15 m in length and makes an angle of elevation with the ground of 30° . How high is the ramp off of the ground?
3. From a helicopter flying at a height of 1625 m, the angle of depression to the landing pad is 36° . How far is the pad from the helicopter?
4. The angle of elevation from the top of a 16 m building to the top of the second building is 48° . The buildings are 30 m apart. How high is the taller building?
5. Find the measure, to the nearest degree, of the smallest angle in a triangle with sides of 4 m, 7 m, and 8 m.
6. A new ferry will run between two towns on the opposite sides of a lake. To know how long each trip will take, the width of the lake needs to be found. From the information given in the diagram below, find the width of the lake.



7. A ramp is being designed along the side of a building with a length of 7.5 m. The ramp will be sloped at an angle of elevation of 18° .
 - a. Determine the height that the ramp rises above the ground.
 - b. Determine the distance from the bottom of the ramp to the top.

- [illegible]

- ## Answer Key

- 1a) $r \approx 17.49$ m, $S \approx 59^\circ$, $T \approx 31^\circ$ b) $M \approx 55^\circ$, $\ell \approx 14.34$ cm, $m \approx 20.49$ cm
- c) $P \approx 75^\circ$, $p \approx 23.23$ mm, $q \approx 12.75$ mm d) $z \approx 5.38$ inches, $X \approx 36^\circ$, $Y \approx 57^\circ$
- 2) 7.5 m 3) 2764.62 m 4) 49.32 m 5) 30°
- 6) 3.02 km 7a) 2.44 m 7b) 7.89 m
- 8a) Angie is 13.02 m from the rock and Bobby is 11.73 m from the rock.
- 8b) The height of the bridge is 10.26 m
- 9) 86° 10) 105.24