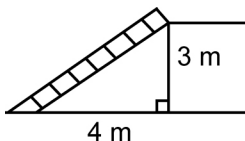


Chapter 2 Review

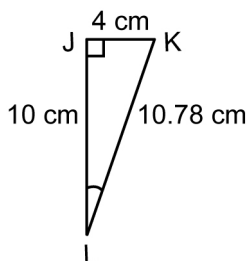
2.1 The Pythagorean Theorem

1. An escalator in a mall carries shoppers from the lower level to the upper level 3 m above. The horizontal distance covered by the escalator is 4 m. Determine the length of the escalator.



2.2 Explore Ratio and Proportion in Right Triangles

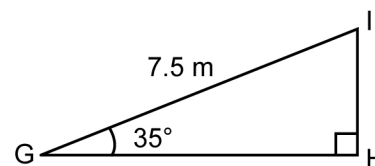
2. Refer to right triangle JKL.



- a) Write the ratio comparing the length of the side opposite $\angle L$ to the length of the hypotenuse. Write the ratio as a decimal, rounded to two decimal places.
 - b) Write the ratio comparing the length of the side adjacent to $\angle L$ to the length of the hypotenuse. Write the ratio as a decimal, rounded to two decimal places.
3. Draw $\triangle MNO$ with $\angle M = 90^\circ$, $MN = 20$ cm, and $MO = 20$ cm.
 - a) Measure the length of NO and mark it on your triangle.
 - b) Write the ratio comparing the length of the side adjacent to $\angle O$ to the length of the hypotenuse. Write the ratio as a decimal, rounded to two decimal places.

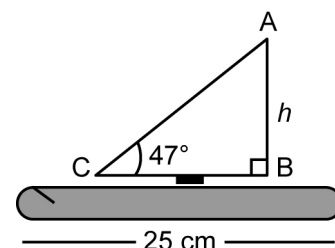
2.3 The Sine and Cosine Ratios

4. Use a scientific calculator to determine each value to four decimal places.
 - a) $\sin 85$
 - b) $\sin 38^\circ$
 - c) $\cos 24$
 - d) $\cos 64^\circ$
5. Use a scientific calculator to find the measure of each $\angle A$ to the nearest degree.
 - a) $\sin A = 0.3420$
 - b) $\sin A = 0.8480$
 - c) $\cos B = 0.5299$
 - d) $\cos B = 0.3746$
6. Find the length of GH to the nearest tenth of a metre.



2.4 The Tangent Ratio

7. Use a scientific calculator to determine each value to four decimal places.
 - a) $\tan 26^\circ$
 - b) $\tan 58^\circ$
 - c) $\tan 66^\circ$
 - d) $\tan 80^\circ$
8. Callum's model boat is 25 cm long. The horizontal length of the sail is half the length of the base of the boat. $\angle C$ is 47° . Determine the height of the sail.



2.5 Solve Problems using Right Triangles

9. At a point 8.6 m from the base of a lighthouse, the angle of elevation to the top of the lighthouse is 40° . How tall is the lighthouse?
10. Felicia's bedroom window is 6 m above the ground. Felicia looks down at an angle of depression of 30° and can see her mailbox. What is the horizontal distance from the house to the mailbox?