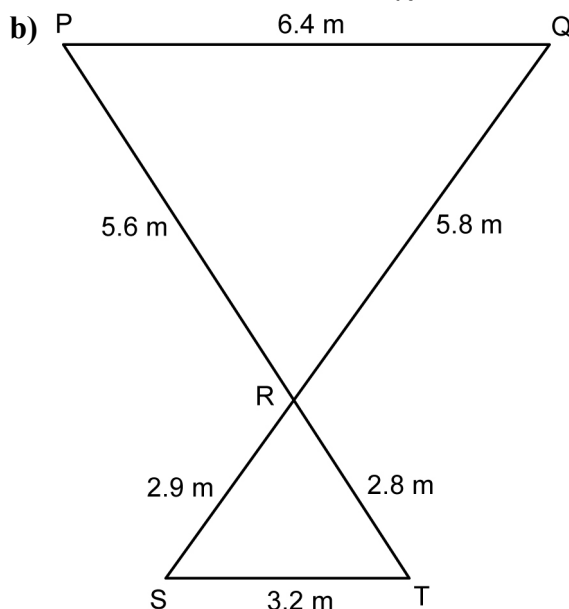
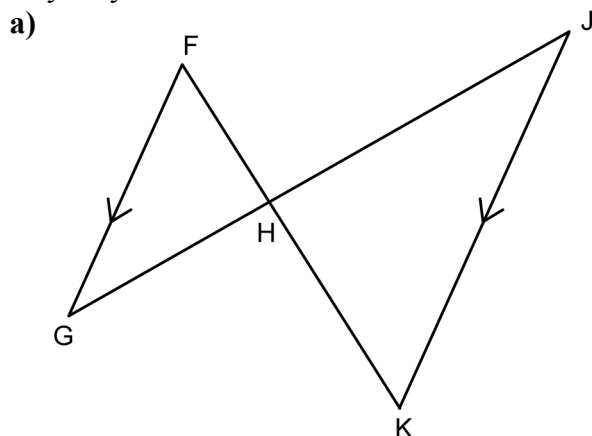


Chapter 7 Review

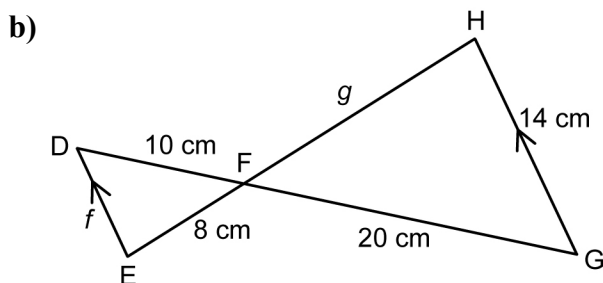
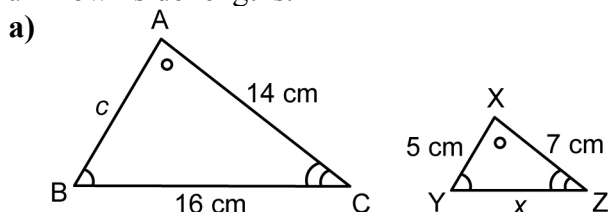
7.1 Investigate Properties of Similar Triangles

- Draw two triangles that are similar.
 - Draw two hexagons that are congruent.
- Name the two similar triangles and explain why they are similar.

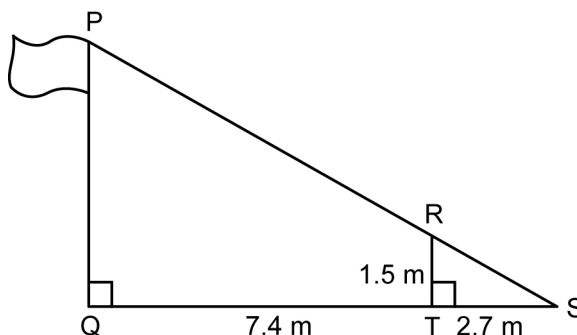


7.2 Use Similar Triangles to Solve Problems

- The pairs of triangles are similar. Find the unknown side lengths.



- The tips of the shadows of a flagpole and a 1.5-m fence post meet at the point S. The following lengths are measured: $ST = 2.7$ m and $QT = 7.4$ m. Use this information to find the height of the flagpole. Round your answer to the nearest tenth of a metre.



- Nimo has constructed a deck in the shape of an equilateral triangle with each side length equal to 2 m. If she enlarges her deck to a similar shape whose side lengths are doubled, what will the area of the new deck be?

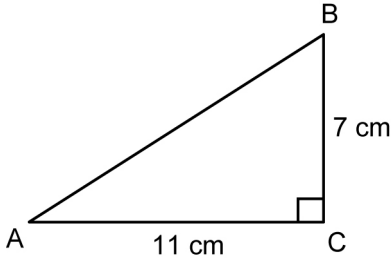
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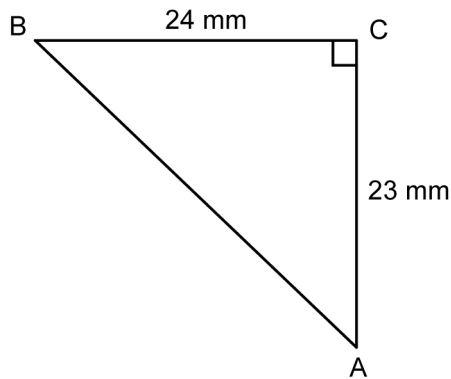
7.3 The Tangent Ratio

6. Find the tangent of $\angle A$, to four decimal places.

a)



b)



7. Find the measure of each angle, to the nearest degree.

a) $\tan \theta = 0.8173$

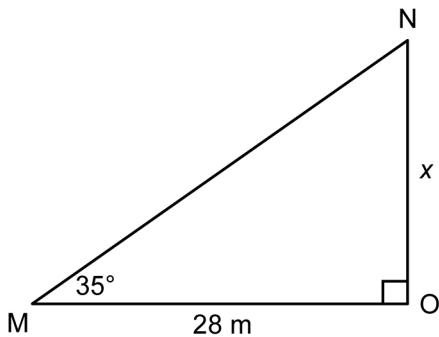
b) $\tan E = 1.5413$

c) $\tan \theta = \frac{13}{18}$

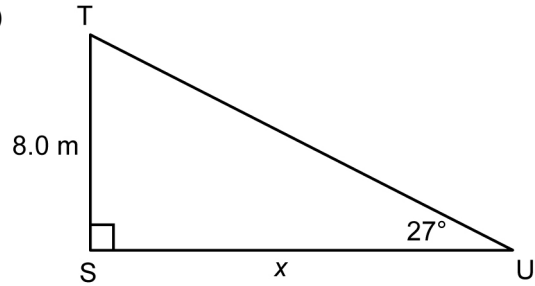
d) $\tan B = \frac{23}{12}$

8. Find x , to the nearest tenth of a metre.

a)



b)

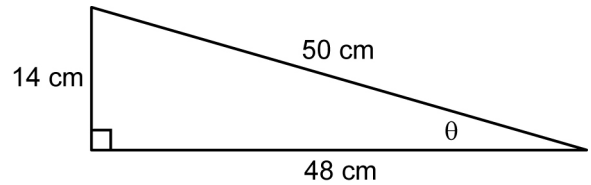


9. The angle of elevation of a ramp is 4° . The horizontal length of the ramp is 18 m. What is the vertical height of the ramp, to the nearest tenth of a metre?

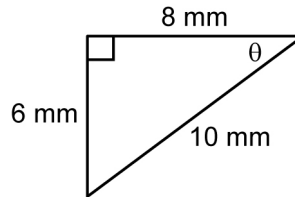
7.4 The Sine and Cosine Ratios

10. Find $\sin \theta$, $\cos \theta$, and $\tan \theta$ for each triangle, expressed as fractions in lowest terms.

a)



b)



11. Find the measure of each angle, to the nearest degree.

a) $\sin \theta = 0.4152$

b) $\sin T = 0.8731$

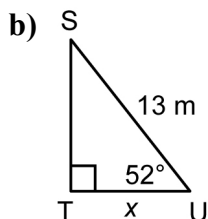
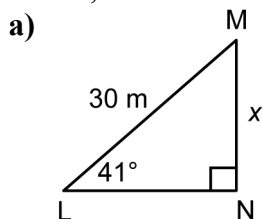
c) $\cos \theta = \frac{11}{15}$

d) $\cos S = \frac{3}{8}$

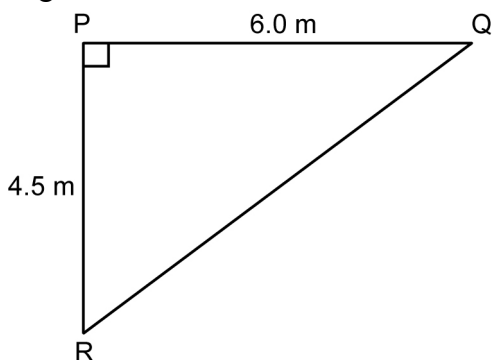
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12. Find x , to the nearest tenth of a metre.

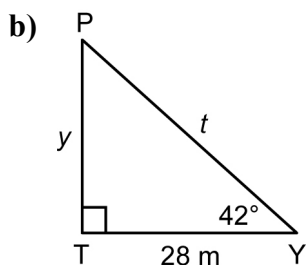
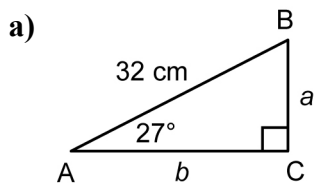


13. Solve $\triangle PQR$. Round angles to the nearest degree.

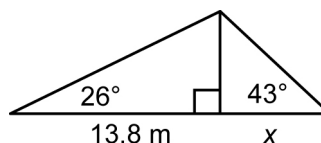


7.5 Solve Problems Involving Right Triangles

14. Solve each triangle. Round side lengths to the nearest tenth of a unit.



15. Find the length of x , to the nearest tenth of a centimetre.



16. The Carziz Tunnel cuts through Mount Mainet. At the start of the tunnel, the angle of elevation of the top of Mount Mainet is 38° . At the end of the tunnel, the angle of elevation of the top of Mount Mainet is 42° . The height of Mount Mainet above the tunnel passage is 584 m. How long is the Carziz tunnel through Mount Mainet? Round your answer to the nearest metre.