email:info@youtheducationservices.ca www.youtheducationservices.ca

Right Angle Triangles and the Tangent Ratio Worksheet

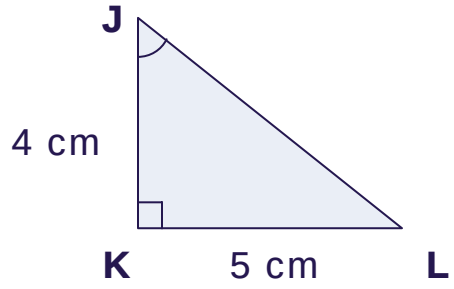
Calculate the tangent of the following angles to two decimal places.

1. tan 10°
2. tan 73°

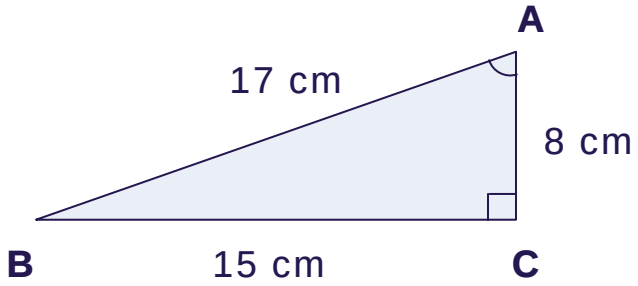
Find ∠ **C** to the nearest degree.

3. tan C = 0.439
4. tan C = 2.156

5. Using the following triangle, calculate tan **J** to two decimal places.

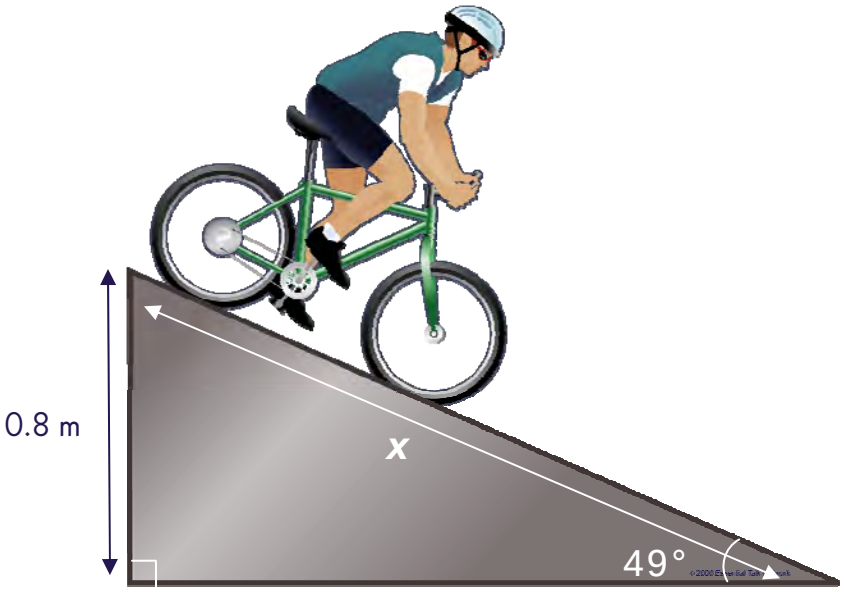


6. Calculate ∠ **A** and tan **A** for the following triangle. Round the angle measurement to the nearest degree and calculate the tan to two decimal places.



email:info@youtheducationservices.ca www.youtheducationservices.ca

10. There is a bike ramp at the park. The incline of the ramp is 49°. The height of the ramp is 0.8m. What is the distance Colin will travel on the ramp with his bike?

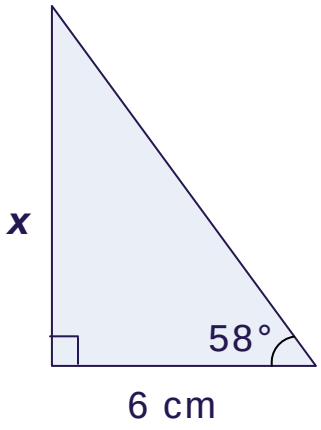


$\tan = \frac{\text{opp}}{\text{adj}}$ $\tan 49 = \frac{0.8}{x}$ $1.15 = \frac{0.8}{x}$ $(1.15)\,x = 0.8$ $x = \frac{0.8}{1.15}$

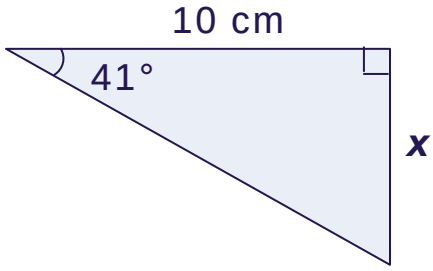
$x = 0.70$ cm

email:info@youtheducationservices.ca www.youtheducationservices.ca

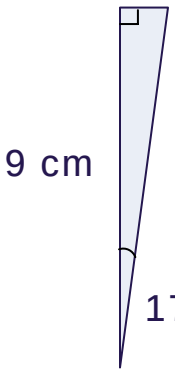
7. Find the measurement of the missing side of the triangle to the nearest tenth of a metre.



8. Find the measurement of the missing side of the triangle to the nearest tenth of a metre.

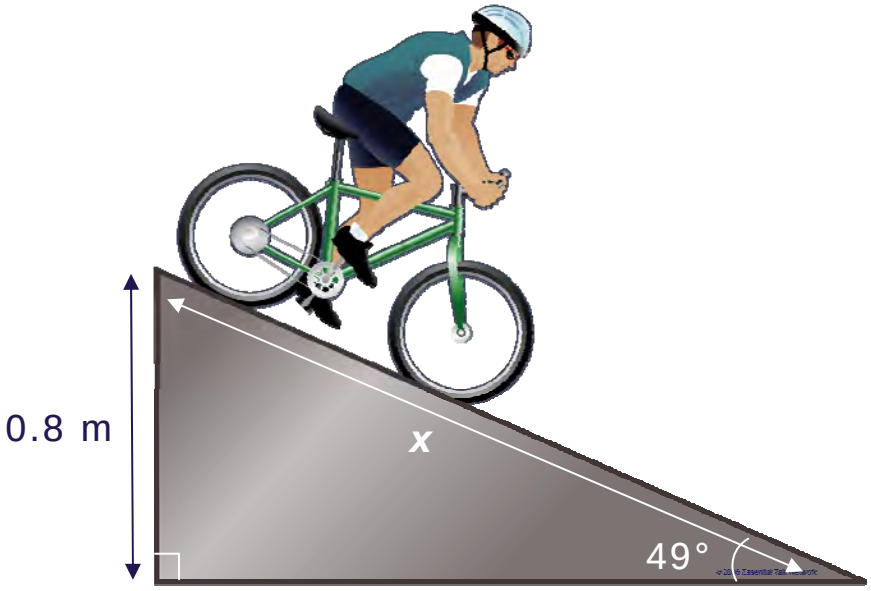


9. In a right angle triangle, the side adjacent to the 17° angle is 9 cm long. What is the length of the side opposite the 17° angle to the nearest centimetre?



email:info@youtheducationservices.ca www.youtheducationservices.ca

10. There is a bike ramp at the park. The incline of the ramp is 49°. The height of the ramp is 1.2 m. What is the distance Colin will travel on the ramp with his bike?



email:info@youtheducationservices.ca www.youtheducationservices.ca

Right Angle Triangles and the Tangent Ratio Worksheet Solutions

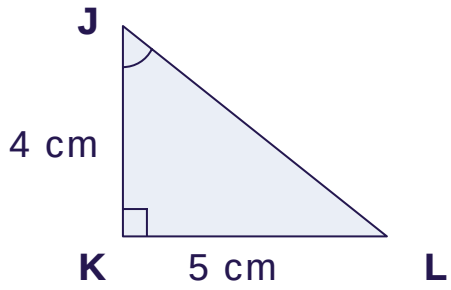
Calculate the tangent of the following angles to two decimal places.

1. tan 10° = **0.18**
2. tan 73° = **3.27**

Find ∠**C** to the nearest degree.

3. tan C = 0.439 ∠**C = 24°**
4. tan C = 2.156 ∠**C = 65°**

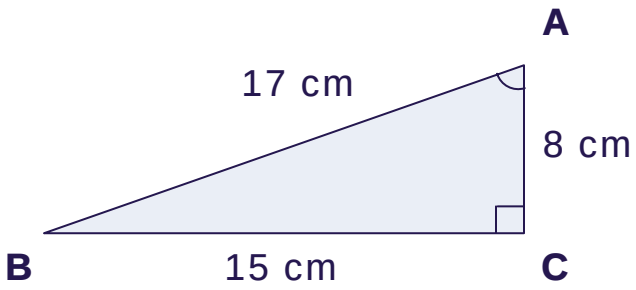
5. Using the following triangle, calculate tan **J** to two decimal places.



tan J = $\frac{\text{opposite}}{\text{adjacent}}$ **tan J = $\frac{\text{5 cm}}{\text{4 cm}}$** **tan J = 1.25**

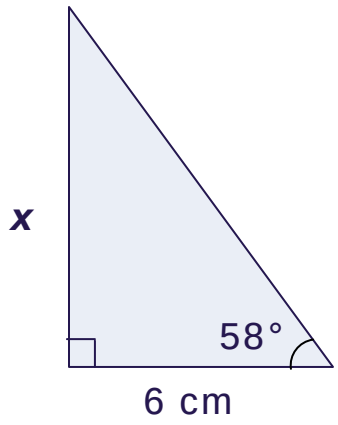
email:info@youtheducationservices.ca www.youtheducationservices.ca

6. Calculate ∠A and tan A for the following triangle. Round the angle measurement to the nearest degree and calculate the tan to two decimal places.



tan A = $\frac{\text{opposite}}{\text{adjacent}}$ **tan A = $\frac{15}{8}$** **tan A = 1.875** **∠A = 62°**

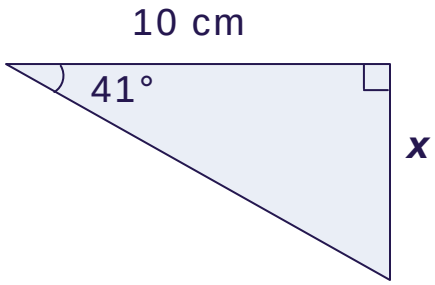
7. Find the measurement of the missing side of the triangle to the nearest tenth of a metre.



tan = $\frac{\text{opp}}{\text{adj}}$ **tan 58 = $\frac{x}{6}$** **1.60 = $\frac{x}{6}$** **1.60(6) = 9.6** ***x* = 9.6 cm**

email:info@youtheducationservices.ca www.youtheducationservices.ca

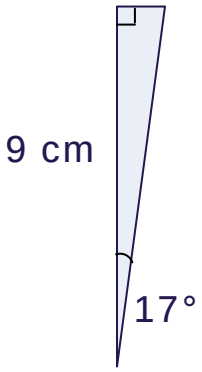
8. Find the measurement of the missing side of the triangle to the nearest tenth of a metre.



tan = $\frac{\text{opp}}{\text{adj}}$ **tan 41 = $\frac{x}{10}$** **0.87 = $\frac{x}{10}$** **x = 0.87(10)**

***x* = 8.7 cm**

9. In a right angle triangle, the side adjacent to the 17° angle is 9 cm long. What is the length of the side opposite the 17° angle to the nearest centimetre?



tan 17 = $\frac{\text{opp}}{\text{adj}}$ **tan 17 = $\frac{x}{9}$** **0.31 = $\frac{x}{9}$** **x = 0.31 (9) = 2.79**

***x* = 3 cm**