Apprenticeship Math 12

ASSIGNMENT: Trigonometric Ratios Review

Name: _____

Date: _____

The Sine Ratio

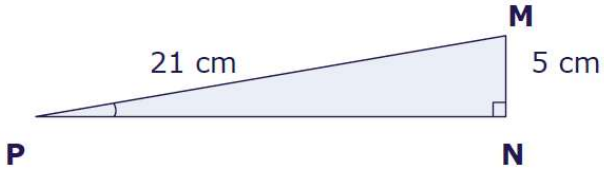
Calculate the sine of the following angles to two decimal places.

1. sin 32°
2. sin 86°

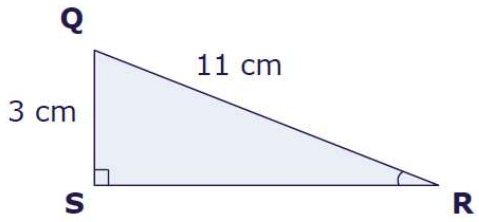
Find ∠ **H** to the nearest degree.

3. sin **H** = 0.521
4. sin **H** = 0.739

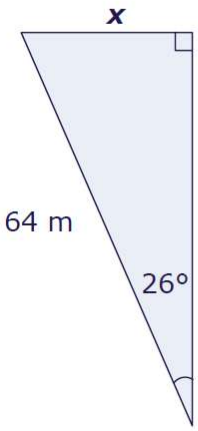
5. Using the following triangle, calculate sin **P** to two decimal places.



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

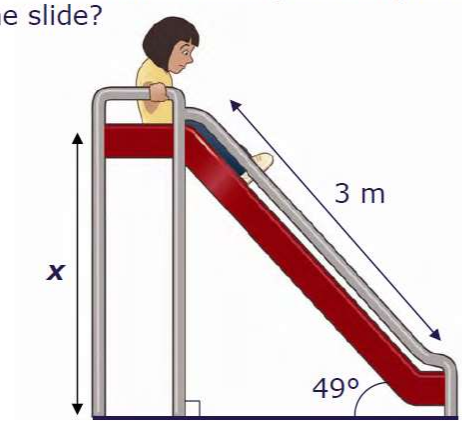


7. Find the measurement of the missing side of the triangle to the nearest tenth of a metre.



9. While on icy roads, a semi truck slid into the ditch and the back part of the semi truck began to tip, hitting a light post and breaking it 2.7 m up the base. The top portion of the light post was now touching the ground. The angle which the top of the light post made with the ground is 62°. How tall to the nearest tenth of a meter was the light post before it was broken?

10. A new playground was built and Sarah was afraid to go down the slide. The slide was 3 meters long and the incline of the slide to the ground was 49°. How high was the slide off the ground to the nearest tenth of a meter? What would you change to make Sarah less afraid to go down the slide?



The Cosine Ratio

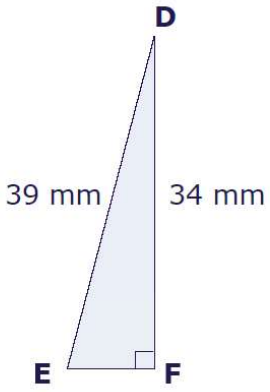
Calculate the cosine of the following angles to two decimal places.

1. cos 54° =
2. cos 78° =

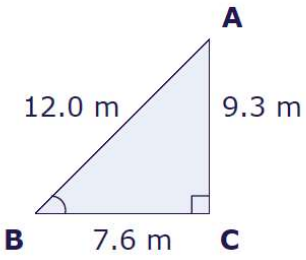
Find ∠ T to the nearest degree.

3. cos T = 0.683
4. cos T = 7/9

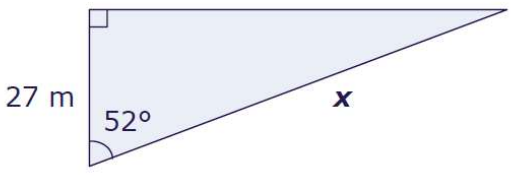
5. Using the following triangle, calculate cos **D** to two decimal places.



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

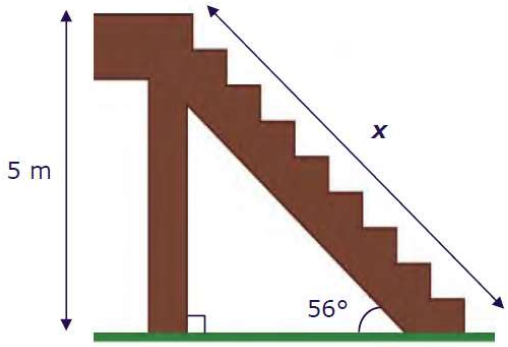


7. Find the measurement of the missing side of the triangle to the nearest tenth of a metre.

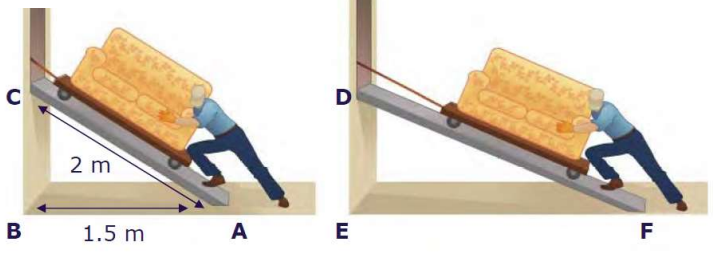


8. If a right triangle has a hypotenuse that is 18 cm long, how long is the side adjacent to the 17° angle (nearest tenth of a centimetre)?

9. A family built a patio on the second storey of their home. They wanted to be able to access their backyard from this patio, so they built stairs from the patio to the grass. The incline of their staircase from the ground to the patio was 56° and the height of the staircase from the patio to the ground was 5 m. To the nearest tenth, calculate the length of the staircase.



10. A furniture company purchased a new warehouse loading ramp because the employees were having a hard time carrying the furniture the old ramp due to the steep incline. The old ramp was 2 meters lon and the distance from the base of the ramp, where the employee is standing, to the building wall is **1.5m. The new ramp is 1 meter** longer than the old ramp. What is the difference in the incline on the new and old ramp?



OLD RAMP NEW RAMP

The Tangent Ratio

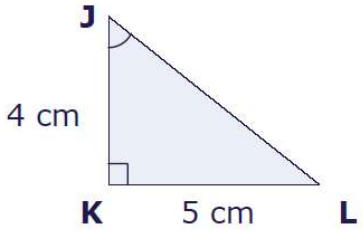
Calculate the tangent of the following angles to two decimal places.

1. tan 10°
2. tan 73°

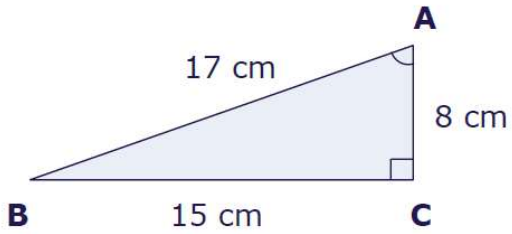
Find ∠ **C** to the nearest degree.

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

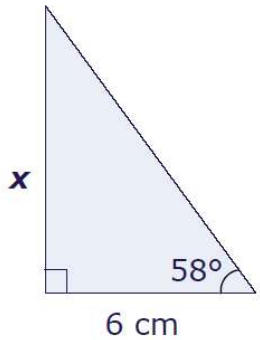
5. Using the following triangle, calculate tan **J** to two decimal places.



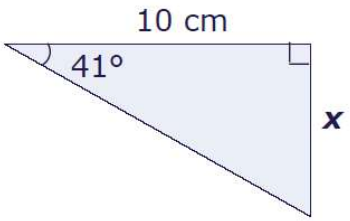
6. Calculate ∠ **A** and tan **A** for the following triangle. Round the angle measurement to the nearest degree and calculate the tan to two decimal places.



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

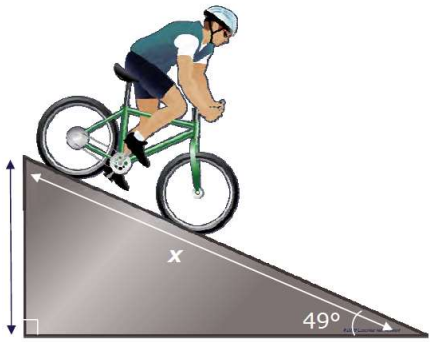


8. Find the measurement of the missing side of the triangle to the nearest tenth of a metre.



9. In a right triangle, the side opposite a 17° angle is 2.7 cm long. What is the length of the side adjacent to the 17° angle? Round your answer to the nearest tenth?

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 horizontal distance will Colin travel as he rides down the ramp? How long is the surface of the ramp (x)?



The Sine Ratio

1. 0.53
2. 1.00
3. 31°
4. 48°
5. 0.24
6. sin R = 0.27
   ∠R = 16°
7. 28.1 m
9. 5.8 m
10. 2.3 m

The Cosine Ratio

1. 0.59
2. 0.21
3. 47°
4. 39°
5. 0.87
6. cos B = 0.63
   ∠B = 51°
7. 43.9 m
8. 17.2 cm
9. 6.0 m
10. 15°

The Tangent Ratio

1. 0.18
2. 3.27
3. 24°
4. 65°
5. 1.25
6. tan A = 1.88
   ∠A = 62°
7. 9.6 cm
8. 8.7 cm
9. 8.8 cm
10. 1.0 m
    x = 1.6 m