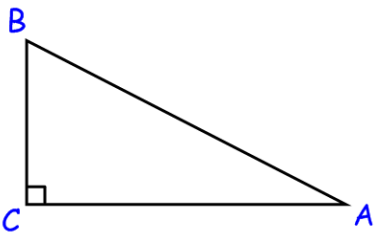# Trigonometry Assignment

1. Fill in the blanks. **[6 marks K]**

   Use the word bank below to fill in the blanks. Some words will be used more than once.

| | | |
|---|---|---|
| sin (angle) = _____ | | If the reference angle is A |
| cos (angle) = _____ |  | a is the _____ |
| | | b is the _____ |
| tan (angle) = _____ | | c is the _____ |
| **Word Bank: opposite, adjacent, hypotenuse** | | |

2. Evaluate on a calculator. **Round to 4 decimal places. [3 marks K]**

   Note: ensure your calculator is set to **degrees** by evaluations sin 45 → answer should be 0.7071

| | | |
|---|---|---|
| sin 30° = | cos 25° = | tan 60° = |
| sin 72° = | cos 47° = | tan 15° = |

3. Use your calculator to solve for the indicated angle. **Round to the nearest whole degree. [3 marks K]**

   **Remember: When you are solving for an angle use the sin⁻¹, cos⁻¹ and tan⁻¹ buttons!**

| | | |
|---|---|---|
| sin A = 0.9063 | cos B = 0.3746 | tan C = 2.7286 |
| sin D = 0.6231 | cos E = 0.8524 | tan F = 1.0000 |

4. Solve for the indicated angle. Show your intermediate step. **[6 marks K]**

   **Round your final answer to the nearest whole degree.**

| | | |
|---|---|---|
| $\sin G = \dfrac{4.6}{8.3}$ | $\cos H = \dfrac{19.5}{39.2}$ | $\tan I = \dfrac{65.5}{22.8}$ |

5. Solve for the indicated side. Show your work! **[12 marks K]**
   **Round your final answer to one decimal place.**

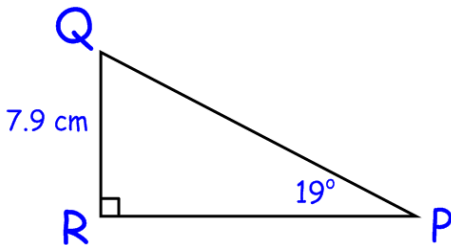| | | |
|---|---|---|
| $\sin 67° = \dfrac{j}{19.4}$ | $\cos 32° = \dfrac{k}{42.6}$ | $\tan 17° = \dfrac{l}{96.2}$ |
| $\sin 14° = \dfrac{4.6}{m}$ | $\cos 72° = \dfrac{20.1}{n}$ | $\tan 82° = \dfrac{8.9}{o}$ |

6. "Solve" each triangle: find the measures of all sides and angles!
   **Round side lengths to one decimal place and angles to the nearest whole degree.**
   Show all of your work!

   **[7 marks A]**                    **Show your work here**

   Q

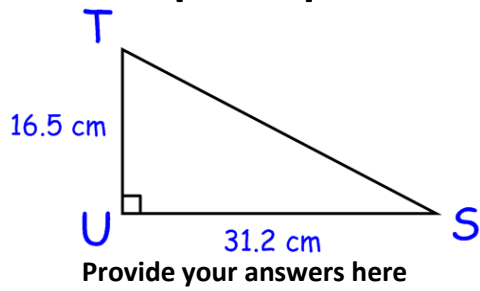   7.9 cm

   19°

   R                    P

   **Provide your answers here**

   P = _____    p = _____

   Q = _____    q = _____

   R = _____    r = _____

**[7 marks A]**　　　　　　　　**Show your work here**

T

16.5 cm

U ⌐ 31.2 cm S

**Provide your answers here**

S = _____　　s = _____

T = _____　　t = _____

U = _____　　u = _____

---

**[7 marks A]**　　　　　　　　**Show your work here**

W

74° 　9.6 cm

X ⌐ V
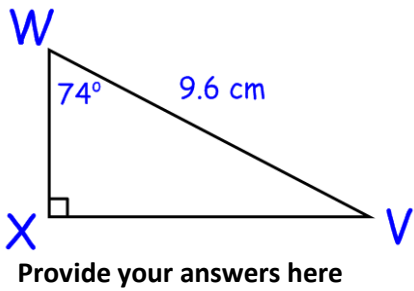
**Provide your answers here**

V = _____　　v = _____

W = _____　　w = _____

X = _____　　x = _____

---

**[7 marks A]**　　　　　　　　**Show your work here**

Z

89.6 cm

38.5 cm

A ⌐ Y
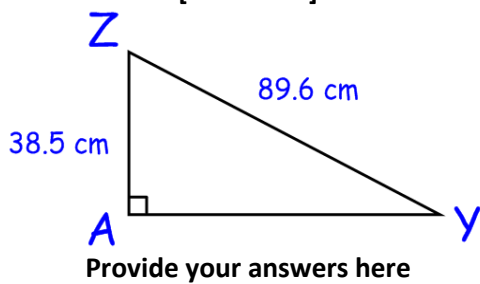
**Provide your answers here**

Y = _____　　y = _____

Z = _____　　z = _____

A = _____　　a = _____

7. From a point 6.5 m from the base of the school flagpole, the **angle of elevation** to the top of the flagpole is 46°.

   a. Draw a rough sketch to represent the situation. **[2 marks C]**

   b. What is the height of the flagpole? Show your work. **[2 marks A]**

8. A delivery truck has packages that have to be delivered to two different stores. The driver can see both stores and wants to go to the store that is closer first. Store A is 20 m tall. The angle of elevation from the truck to the top of the store is 38°. Store B is 25 m tall. The angle of elevation from the car to the top of that store is 40°.

   a. Draw a diagram to represent the situation. **[4 marks C]**

   b. Which store is closer? Show your work. **[8 marks T]**

| Criteria | Rating | | |
|---|---|---|---|
| Final answers are rounded properly. | 0 (never) | 1 (sometimes) | 2 (always) |
| Solutions follow proper form. | 0 (never) | 1 (sometimes) | 2 (always) |