Right Trigonometry Assignment

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**For the following questions, show ALL work, then write your answer in the box provided, including the correct units.**

1. Calculate how much shorter path AC is than walking along path AB and then along path BC. Round your answer to the nearest tenth.

3.5 km

6.6 km

A

***Answer: \_\_\_\_\_\_\_\_\_\_***

B

C

2. Calculate the missing side for each of the following triangles. Round your answers to the nearest tenth.

51°

12 cm

***f***

(a) (b)

***d***

68°

36 cm

***d: \_\_\_\_\_\_\_\_\_\_\_\_***

***f: \_\_\_\_\_\_\_\_\_\_\_\_***

3. Solve for the missing angle in each of the following triangles. Round your answers to the nearest degree.

21 mm

45 mm

θ

(a) (b) .

5.2 cm

θ

6.7cm

***θ : \_\_\_\_\_\_\_***

***θ : \_\_\_\_\_\_\_***

4. Given the following triangles, solve for all missing sides and/or angles. Round all lengths to the nearest tenth and all angles to the nearest degree.

*r = \_\_\_\_\_\_\_\_\_\_*

*t* = \_\_\_\_\_\_\_\_\_\_\_

∠S = \_\_\_\_\_\_\_\_\_

R

(a)

53°

12 cm

T

S

8.3 cm

6.5 cm

Y

X

*y* = \_\_\_\_\_\_\_\_\_\_\_

∠X = \_\_\_\_\_\_\_\_\_

∠Z = \_\_\_\_\_\_\_\_\_

(b)

Z

Cliff

5. A person standing on top of a cliff 250 m above the sea looks out and sees a ship.

 The angle of elevation to the top of the cliff from the ship is 36°. **Complete the diagram below** and use it to find how far it is from the ship to the bottom of the cliff. Express you answer to the nearest metre.

***Answer: \_\_\_\_\_\_\_\_\_\_***

6. From the basket of a hot air balloon, the angle of depression to where the balloon is anchored is 68°. If the hot air balloon is 54 m above the ground, how long is the rope connecting it to the anchor point? Assume that the rope line is straight and express your answer to the nearest tenth of a metre.

Point

Anchor



***Answer: \_\_\_\_\_\_\_\_\_\_***