

Name: _____

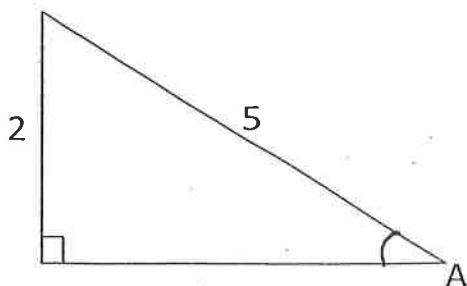
Date: _____

Chapter 8 – Trigonometry Problem Solving

Show all work. Round all answers to the nearest tenth. Place answers in the "Answer" box and remember units. Draw sketches to help you!

1. Determine the ratio of $\cos A$

(hint: $\cos = \frac{\text{adj}}{\text{hyp}}$)



ANSWER:

$$\cos A =$$

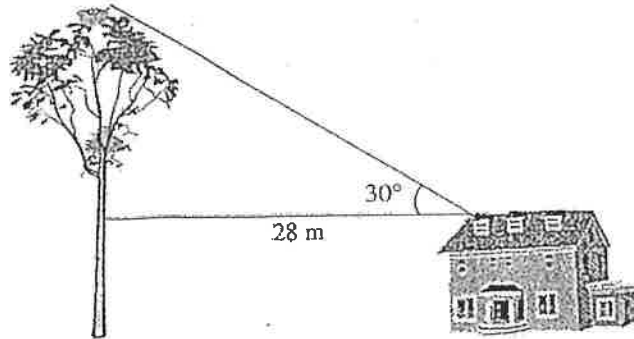
2. In $\triangle ABC$, $\angle C = 90^\circ$, $AB = 15\text{cm}$, and $AC = 12\text{cm}$. Calculate the measure of $\angle ABC$.

ANSWER:

3. The angle of elevation of the sun is 25° . How long is the shadow of a 77m tall building?

ANSWER:

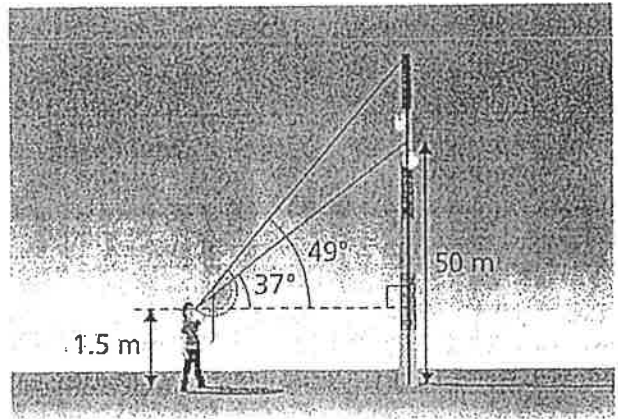
4. A 10 metre tall farmhouse is located 28.0 m away from a tree with an eagle's nest. The angle of elevation from the roof of the farmhouse to the eagle's nest is 30° .



What is the height of the eagle's nest?

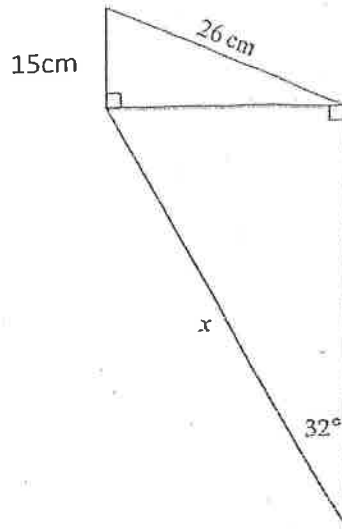
ANSWER:

5. A student uses a clinometer to measure the angle of elevation of a sign that marks the point on a tower that is 50 m above the ground. The angle of elevation is 37° and the student holds the clinometer 1.5 m above the ground. She then measures the angle of elevation of the top of the tower as 49° . Determine the height of the tower to the nearest tenth of a metre. The diagram is *not* drawn to scale.



ANSWER:

6. Calculate the length of side x on the diagram below.



ANSWER:

7. From the roof of Mr. Trig's building, the angle of elevation of the top of a taller building is 34° . The angle of depression to the base of the taller building is 56° . The buildings are 20m apart. Determine the height of the **taller** building. (hint: draw a sketch!)

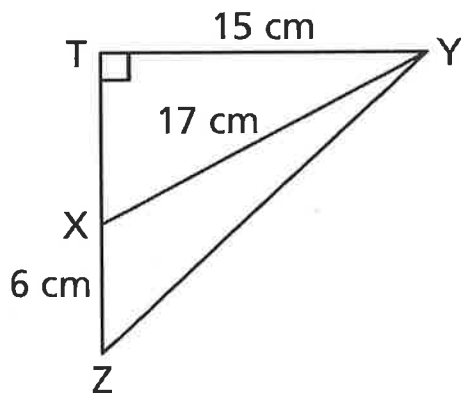
ANSWER:

TURN OVER ↪

- 8) Mr. Sohcatoa is standing on a surveyors mark 65 m from the base of a building. He measures a 61° angle of elevation to the top of the building. Mr. Sohcatoa is 1.8 m tall. How tall is the building to the nearest metre?

ANSWER:

- 9) Calculate the measure of angle XYZ



ANSWER:

- 10) Trevor and Jaymie are standing on opposite sides of a cell phone tower. Jaymie is standing 115m from the tower. Her angle of elevation to the tower is 33° . Trevor's angle of elevation to the top of the tower is 36° . How far from the base of the tower is he standing? Answer to one decimal place.

ANSWER: