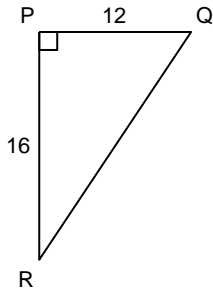


Math 1201 Review Chapter 2

Multiple Choice

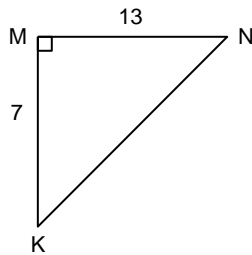
Identify the choice that best completes the statement or answers the question.

- ___ 1. Determine $\tan Q$ and $\tan R$.



- a. $\tan Q = 0.\overline{428571}$; $\tan R = 0.75$ c. $\tan Q = 1.3$; $\tan R = 0.\overline{571428}$
b. $\tan Q = 1.3$; $\tan R = 0.75$ d. $\tan Q = 0.75$; $\tan R = 1.3$

- ___ 2. Determine the measure of $\angle N$ to the nearest tenth of a degree.

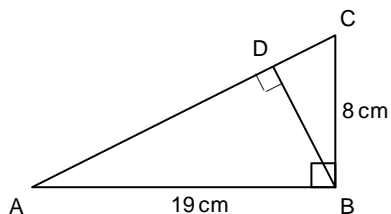


- a. 57.4° b. 61.7° c. 32.6° d. 28.3°

- ___ 3. Calculate the angle of inclination, to the nearest tenth of a degree, of a road with a grade of 22%.

- a. 77.3° b. 77.6° c. 12.4° d. 12.7°

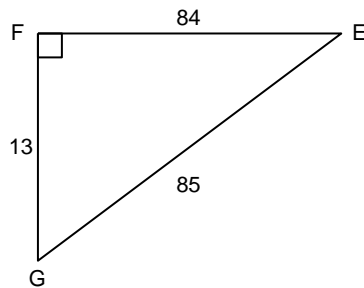
- ___ 4. Determine the measure of $\angle ABD$ to the nearest tenth of a degree.



- a. 65.1° b. 67.2° c. 22.8° d. 24.9°

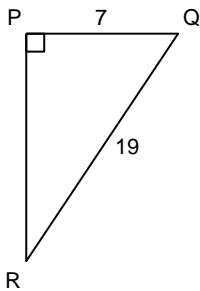
- ___ 5. Rhonda walked diagonally across a rectangular playground with dimensions 60 m by 45 m. She started at point C. Determine the angle, to the nearest degree, between her path and the longest side of the playground.

- ___ 11. A guy wire is attached to a tower at a point that is 5.5 m above the ground. The angle between the wire and the level ground is 56° . How far from the base of the tower is the wire anchored to the ground, to the nearest tenth of a metre?
- a. 3.1 m b. 6.6 m c. 3.7 m d. 8.2 m
- ___ 12. Terry is lying on the ground near the B.C. Legislature Building. The angle between the ground and his line of sight to the highest point on the building is 53° . The height of the building, from the ground to its highest point, is about 43 m. About how far is Terry from a point on the ground vertically below the highest point on the building? Give the answer to the nearest metre.
- a. 71 m b. 57 m c. 34 m d. 32 m
- ___ 13. A road has an angle of inclination of 16° . Determine the increase in altitude of the road, to the nearest metre, for every 150 m of horizontal distance.
- a. 523 m b. 144 m c. 43 m d. 41 m
- ___ 14. A surveyor held a clinometer 1.5 m above the ground from a point 60.0 m from the base of a tower. The angle between the horizontal and the line of sight to the top of the tower was 21° . Determine the height of the tower to the nearest tenth of a metre.
- a. 157.8 m b. 23.0 m c. 24.5 m d. 65.8 m
- ___ 15. Determine $\sin G$ and $\cos G$ to the nearest hundredth.



- a. $\sin G = 0.99$; $\cos G = 6.54$ c. $\sin G = 1.01$; $\cos G = 0.15$
 b. $\sin G = 0.15$; $\cos G = 0.99$ d. $\sin G = 0.99$; $\cos G = 0.15$

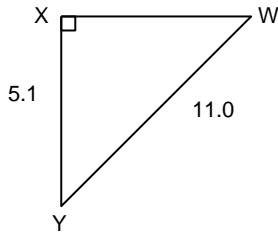
- ___ 16. Determine the measure of $\angle Q$ to the nearest tenth of a degree.



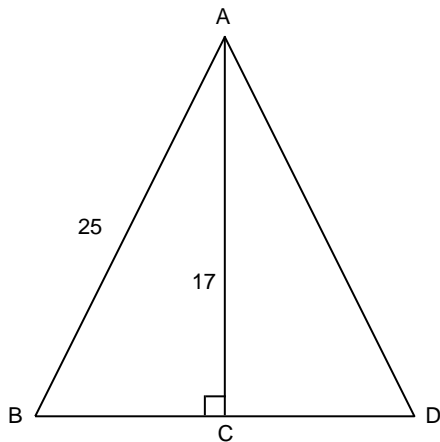
- a. 68.4° b. 69.8° c. 21.6° d. 20.2°

- ___ 17. A helicopter is hovering 200 m above a road. A car stopped on the side of the road is 300 m from the helicopter. What is the angle of elevation of the helicopter measured from the car, to the nearest degree?
- a. 56° b. 48° c. 42° d. 34°

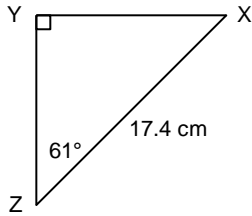
- ___ 18. Determine the measure of $\angle Y$ to the nearest tenth of a degree.



- a. 27.6° b. 62.4° c. 65.1° d. 24.9°
- ___ 19. A ladder is 13.0 m long. It leans against a wall. The base of the ladder is 3.7 m from the wall. What is the angle of inclination of the ladder to the nearest tenth of a degree?
- a. 73.5° b. 16.5° c. 74.1° d. 15.9°
- ___ 20. A rope that supports a canopy is 8.5 m long. The rope is attached to the canopy at a point that is 7.5 m above the ground. What is the angle of inclination of the rope to the nearest tenth of a degree?
- a. 48.6° b. 61.9° c. 28.1° d. 41.4°
- ___ 21. Determine the measure of $\angle B$ to the nearest tenth of a degree.

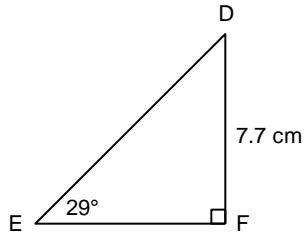


- a. 94.3° b. 34.2° c. 42.8° d. 47.2°
- ___ 22. Determine the length of XY to the nearest tenth of a centimetre.



- a. 8.4 cm b. 15.2 cm c. 31.4 cm d. 19.9 cm

___ 23. Determine the length of DE to the nearest tenth of a centimetre.

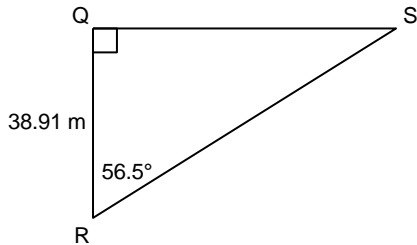


- a. 8.8 cm b. 15.9 cm c. 3.7 cm d. 13.9 cm

___ 24. From the start of a runway, the angle of elevation of an approaching airplane is 17.5° . At this time, the plane is flying at an altitude of 7.7 km. How far is the plane from the start of the runway to the nearest tenth of a kilometre?

- a. 8.1 km b. 2.3 km c. 25.6 km d. 24.4 km

___ 25. A surveyor made the measurements shown in the diagram. Determine the distance from R to S, to the nearest hundredth of a metre.



- a. 46.66 m b. 70.50 m c. 25.75 m d. 58.79 m

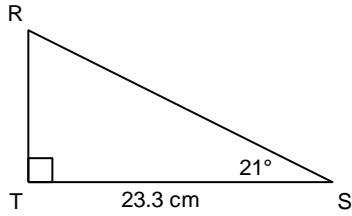
___ 26. A guy wire is attached to a tower at a point that is 7.5 m above the ground. The angle of inclination of the wire is 67° . Determine the length of the wire to the nearest tenth of a metre.

- a. 18.7 m b. 20.2 m c. 8.1 m d. 7.9 m

___ 27. A balloon is flying at the end of a 170-m length of string, which is anchored to the ground. The angle of inclination of the string is 50° . Calculate the height of the balloon to the nearest metre.

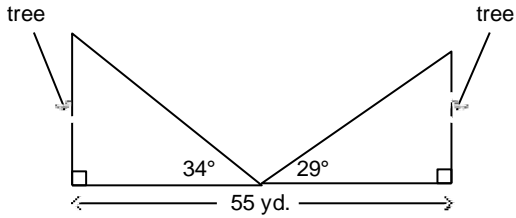
- a. 130 m b. 143 m c. 109 m d. 222 m

___ 28. Determine the area of $\triangle RST$ to the nearest square centimetre.



- a. 291 cm^2 b. 707 cm^2 c. 104 cm^2 d. 208 cm^2

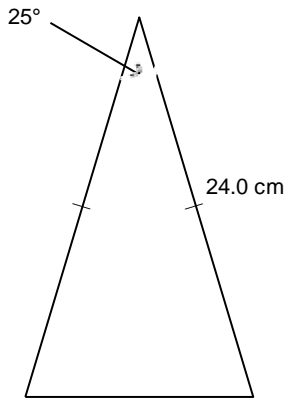
29. Two trees are 55 yd. apart. From a point halfway between the trees, the angles of elevation of the tops of the trees are measured. What is the height of each tree to the nearest yard?



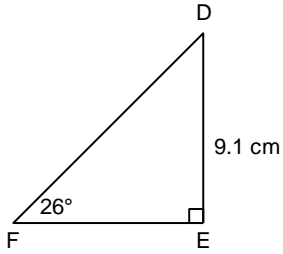
- a. 33 yd.; 31 yd. c. 41 yd.; 50 yd.
 b. 19 yd.; 15 yd. d. 40 yd.; 49 yd.

Short Answer

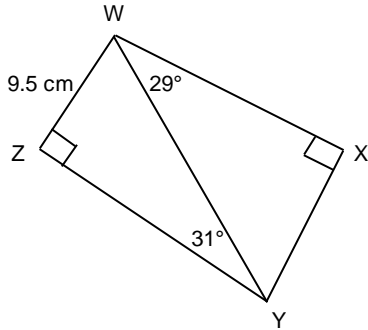
30. A tree is supported by a guy wire. The guy wire is anchored to the ground 7.0 m from the base of the tree. The angle between the wire and the level ground is 60° . How far up the tree does the wire reach, to the nearest tenth of a metre?
31. Determine the height of this isosceles triangle to the nearest tenth of a centimetre.



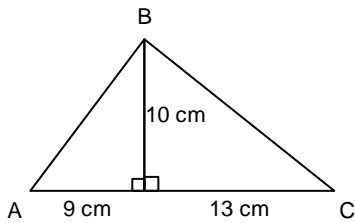
32. Solve this right triangle. Give the measures to the nearest tenth.



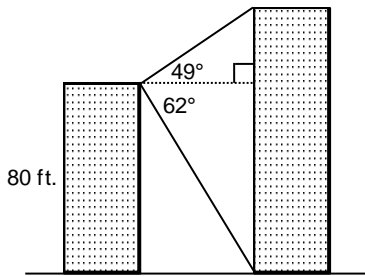
33. Determine the length of WX to the nearest tenth of a centimetre.



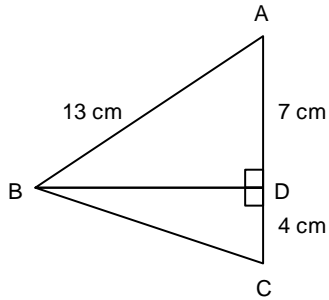
34. Calculate the measure of $\angle ABC$ to the nearest degree.



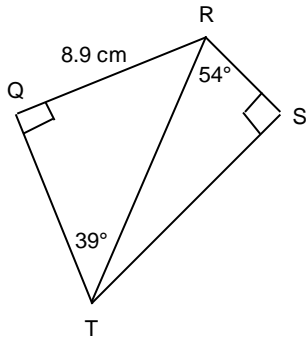
35. From the top of an 80-ft. building, the angle of elevation of the top of a taller building is 49° and the angle of depression of the base of this building is 62° . Determine the height of the taller building to the nearest foot.



36. Calculate the measure of $\angle ABC$ to the nearest tenth of a degree.



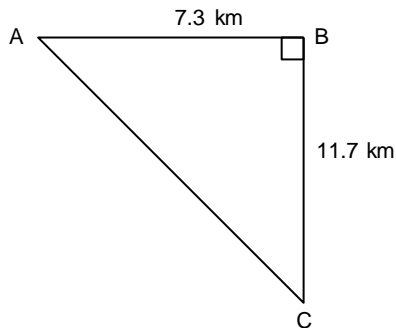
37. Determine the length of RS to the nearest tenth of a centimetre.



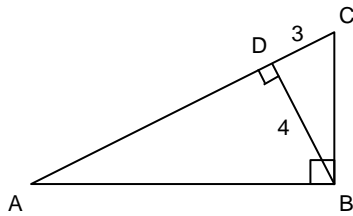
Problem

38. In the diagram below, a Coast Guard patrol boat is at C, which is 11.7 km south of Point Atkinson lighthouse. A sailboat in distress is at A, which is 7.3 km west of the lighthouse.

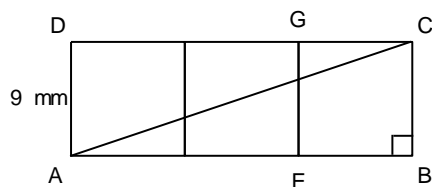
- How far is the patrol boat from the sailboat, to the nearest tenth of a kilometre?
- At what angle to BC should the patrol boat travel to reach the sailboat? Give the answer to the nearest tenth of a degree.



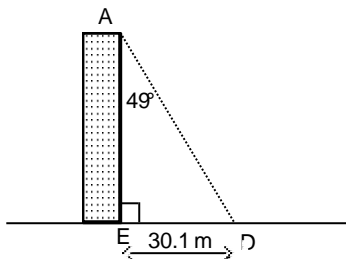
39. Determine the measures of $\angle A$ and $\angle C$ to the nearest tenth of a degree.



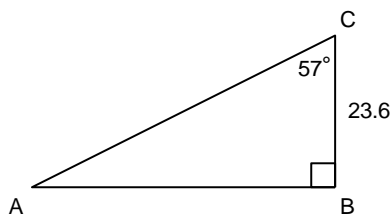
40. Three squares with side length 9 mm are placed side-by-side as shown. Thomas says $\angle ACB$ is approximately 71.6° .
- Is he correct? Justify your answer.
 - Describe what the value of $\tan C$ indicates.



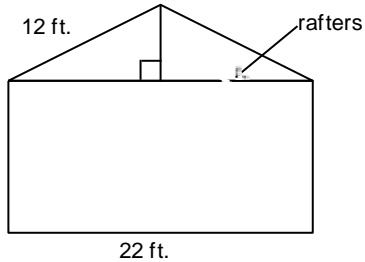
41. A guy wire is connected from a tower to the ground. Determine the height of the tower, to the nearest tenth of a metre. What assumptions about the ground are you making?



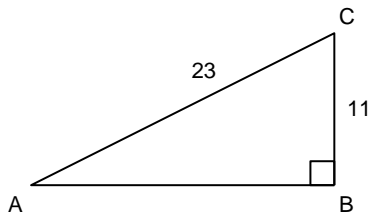
42. The angle between one longer side of a rectangle and a diagonal is 37° . One shorter side of the rectangle is 6.2 cm.
- Sketch and label the rectangle.
 - What is the length of the rectangle to the nearest tenth of a centimetre?
43. Determine the area of $\triangle ABC$ to the nearest tenth of a square unit. Determine its perimeter to the nearest tenth of a unit.



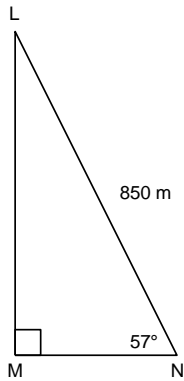
44. A boat was docked 30.0 m from the base of a cliff. A sailor used a clinometer to sight the top of the cliff. The angle between the horizontal and the line of sight was 74° . The sailor held the clinometer 1.5 m above the surface of the water. Determine the height of the cliff to the nearest tenth of a metre.
45. Calculate the angle of inclination of the roof to the nearest tenth of a degree.



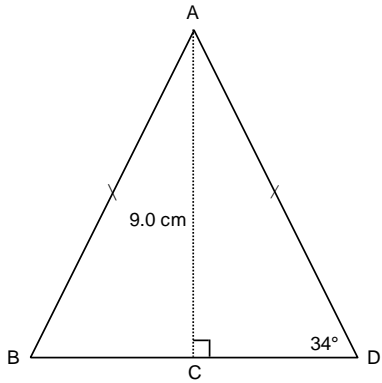
46. Determine the measures of $\angle A$ and $\angle C$ to the nearest tenth of a degree.



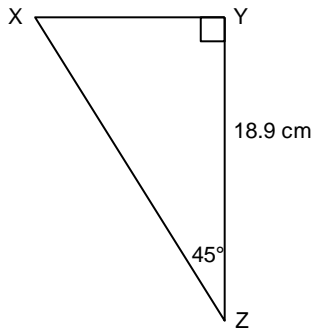
47. Determine the area of this right triangle to the nearest square metre.



48. Determine the perimeter of this triangle to the nearest tenth of a centimetre.



49. Solve $\triangle XYZ$. Give the measures to the nearest tenth. Explain your strategy.



50. Determine the area of this triangle to the nearest tenth of a square centimetre.

