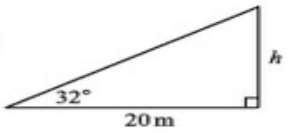
Name: _____

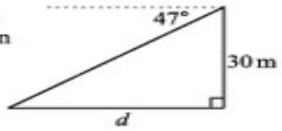
Trigonometry
Exercise 8: Angles Of Elevation & Depression

For lengths, answer to 1 decimal place. For angles, answer to the nearest minute.
Draw a diagram for each question. (Some are started for you).

Q1 The angle of elevation of the top of a flag pole from a point 20m from its base is 32°.
Find the height of the pole.

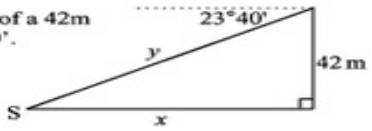


Q2 Julia observes a car approaching on the desert plain from her position on top of a 30m cliff. The angle of depression of the car at that instant is 47°.
How far from the base of the cliff is the car?

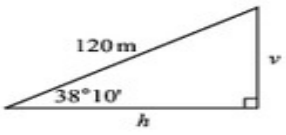


Q3 A slide has an angle of depression of 58°. If the slide is 12.3m long, find the horizontal distance that the slide reaches .

Q4 Philip observes a ship out to sea from his position at the top of a 42m high lighthouse. The angle of depression to the ship is 23°40'.
Find the distance to the ship:
(i) from the base of the lighthouse.
(ii) directly along Philip's line of sight.



Q5 A bulldozer lumbers up a hill for 120m. Its instruments show that the hill has an angle of elevation of 38°10'.
Find:
(i) the vertical distance that the bulldozer has travelled.
(ii) the horizontal distance that the bulldozer has travelled.



Q6 Ann is on top of a building and observes a man on top of a taller bulding nearby at an angle of elevation of 16°. If her building is 52m high and the other is 91m tall, how far in a direct line is Ann from the man?