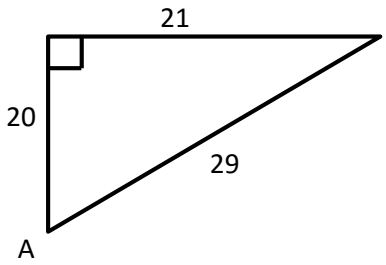
Unit 6: Triangle Geometry Day 5

Math 9 Principles

6-4 I can evaluate the sine, cosine, and tangent ratio in right angled triangle and use this to find missing sides and angles.

Find angle A in each triangle. (Round to the nearest degree)

1)



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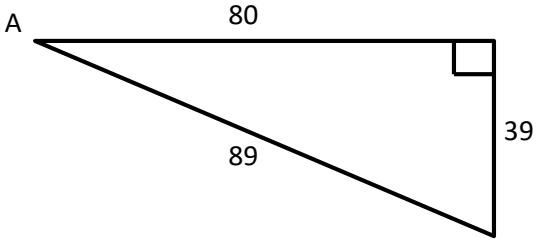

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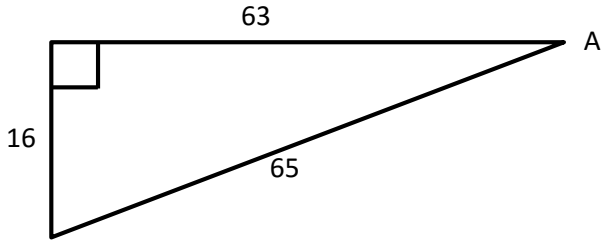

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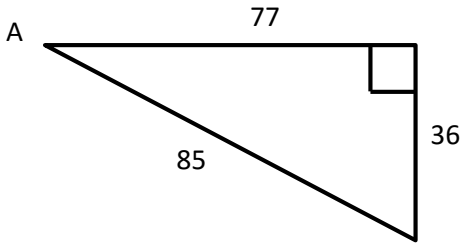

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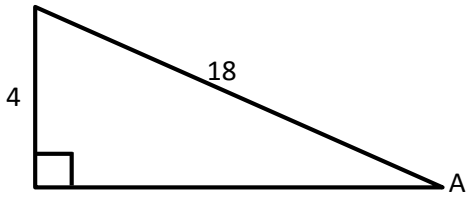

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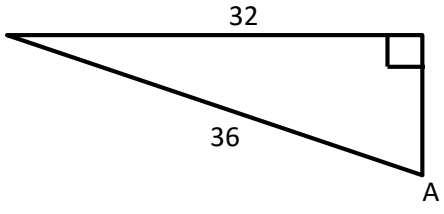
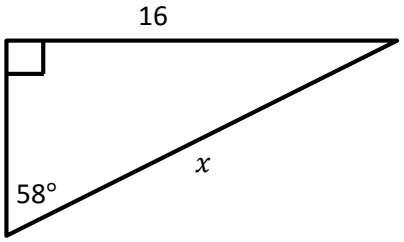


Using the Sin ratio, calculate the missing length (x) in each. Clearly show your equation for each question.

7)



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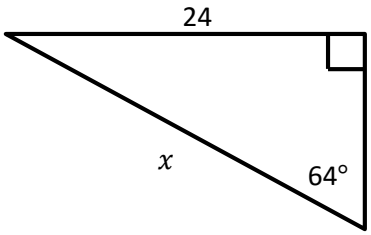

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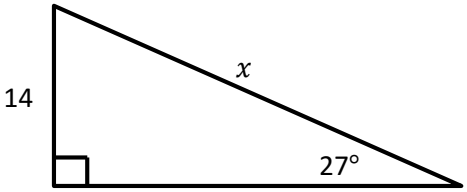

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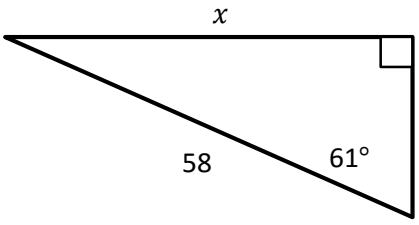

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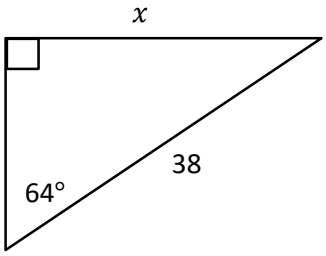

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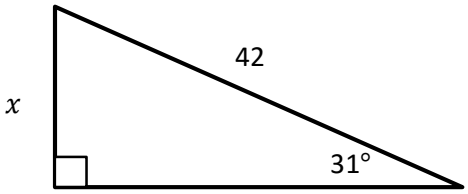

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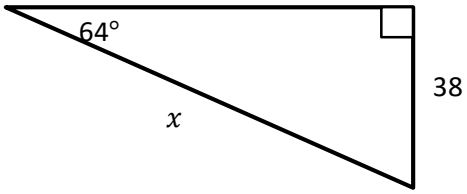

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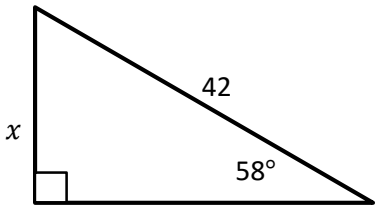

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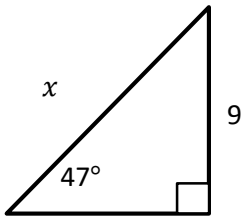

Create a labeled diagram for each question and solve.

16) In order to create a coaster with a 70° incline that has a maximum height of 30 m, what length of track is necessary? Assume a straight track.

17) A warehouse conveyer belt is 3.2 m long. If it can incline at a maximum angle of 38°, what height above the ground can the top of the belt reach?

18) A surveyor measures the angle of elevation between two points to be 8°. If the distance, measured straight between those two points, is 1200 m, what is the change of elevation between those points?

19) The sun's rays create a shadow of a tall tree. The length of the shadow is 12 m. The angle of elevation of the sun is 78°. Calculate the height of the tree.

20) If a road with a 6° incline or angle of elevation rises 300 metres, how long is the road?

21) A 2000 m stretch of road has a change of elevation of 500 m. What is the angle of elevation of the road?

22) A conveyer belt is 4.8 m long. If it can incline at a maximum angle of 32°, what height above the ground can it reach?