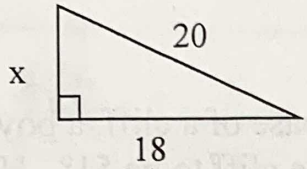
Name _____ 2.4 Solving Right Triangles

Find the value of x in each. Round to the nearest tenth.

1.



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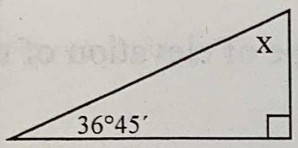

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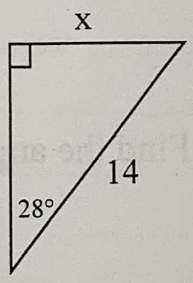

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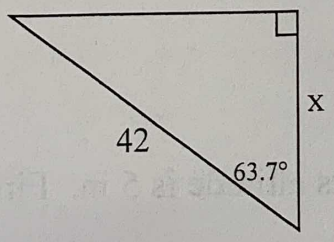

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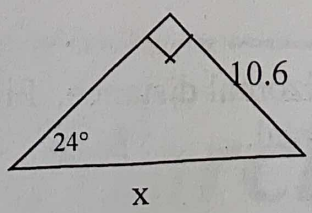

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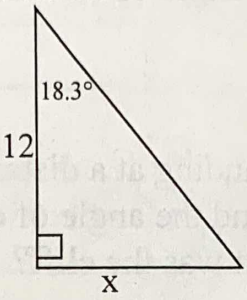

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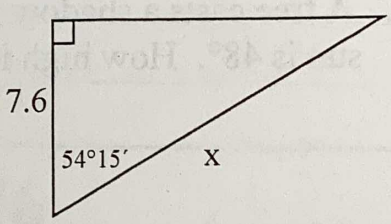

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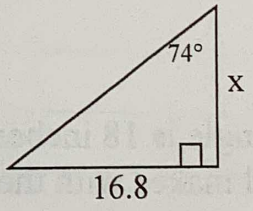

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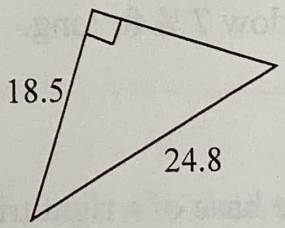

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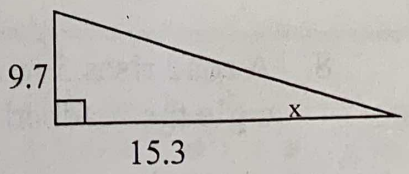

Word Problems:

1. Find the height of a flag pole if at a distance of 80 feet from its base, the angle of elevation of the top of the pole is 32°.

2. Standing at a distance of 60 feet from the base of a cliff, a boy scout found the angle of elevation of the top of the cliff to be 51°. How high was the cliff?

3. A tree casts a shadow 51 ft. long when the angle of elevation of the sun is 48°. How high is the tree?

4. What is the angle of elevation of the sun when a flag pole 60 feet high casts a shadow 42 feet long?

5. A rectangle is 18 inches long and 14 inches wide. Find the angle the diagonal makes with the longer side.

6. Find the angle of elevation of the sun when a man 6 ft. tall casts a shadow 7 ½ ft. long.

7. The base of a right triangle is 12 in. and its altitude is 5 in. Find each of its acute angles.

8. A road rises 5 feet for each 100 feet horizontal distance. Find the angle the roadbed makes with the horizontal.