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Chapter 2 Review

For each type of question, the achievement level is indicated. Showing work is an important strategy in communicating your knowledge and ideas so please be thorough.

Learning Goal 2.1	Apply the trigonometric ratios to calculate unknown lengths and angles in a right triangle.

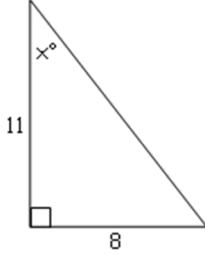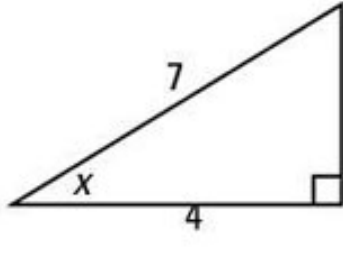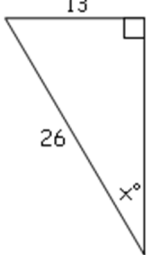| Developing |
|---|

1. Find the value of each ratio to the nearest hundredth.

a. $\tan 60°$	b. $\cos 10°$	c. $\tan 75°$	d. $\cos 75°$	e. $\sin 75°$	f. $\cos 24°$
g. $\tan 10°$	h. $\sin 85°$	i. $\cos 85°$	j. $\tan 85°$	k. $\sin 10°$	l. $\sin 24°$

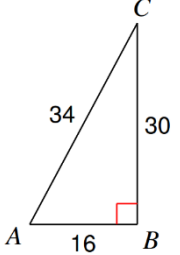2. Find the value of each angle to the nearest angle.
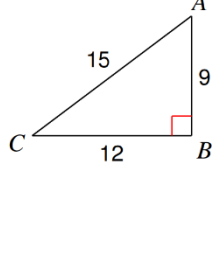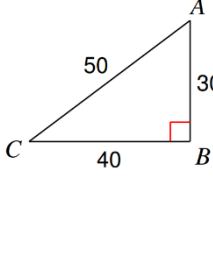
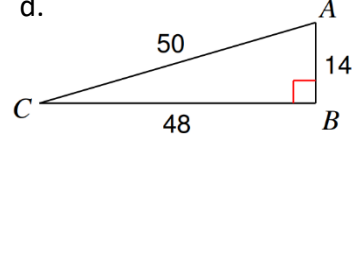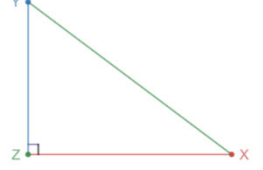| a. $\tan \theta = 1.25$	b. $\tan \theta = 0.1$	c. $\tan \theta = 0.56$
d. $\sin \theta = 0.25$	e. $\sin \theta = 0.1$	f. $\sin \theta = 0.37$
g. $\cos \theta = 0.25$	h. $\cos \theta = 0.1$	i. $\cos \theta = 0.37$
j.	k.	l.

3. Find the value of each ratio.

a.	b.	c.
$\tan X$ $\quad\quad XZ = 4\text{cm}$ $\sin Y \quad$ if $\quad YZ = 9$ cm $\cos X \quad\quad XY = 9.8$ cm	$\tan Y \quad\quad XZ = 2.5$ mm $\sin Y \quad$ if $\quad YZ = 1.3$ mm $\cos X \quad\quad XY = 2.8$ mm	$\tan Y \quad\quad XZ = 90$ m $\sin X \quad$ if $\quad YZ = 100$ m $\cos Y \quad\quad XY = 134.5$ m

4. Find the value of all 6 trig ratios for each triangle.

a.	b.	c.	d.

Proficient

5. Find the value sine and cosine for both angles X and Y.

a. $XZ = 4$ cm $\quad YZ = 9$ cm	b. $XZ = 2.5$ mm $\quad YZ = 1.3$ mm	c. $XZ = 90$ m d. $YZ = 100$ mm	

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Chapter 2 Review

6. Find the indicated length.

a. $\angle X = 25°$ XZ = 15 cm YZ = ?	b. $\angle X = 50°$ XZ = 15 ft YZ = ?	c. $\angle X = 42°$ XZ = 10 m YZ = ?	d. $\angle X = 72°$ YZ = 16m XZ = ?	
e. $\angle X = 18°$ YZ = 20 cm XZ = ?	f. $\angle X = 52°$ YZ = 50 ft XZ = ?	g. $\angle X = 25°$ XZ = 15 cm XY = ?	h. $\angle X = 50°$ XY = 15 ft YZ = ?	
i. $\angle X = 18°$ XY = 20 cm XZ = ?	j. $\angle X = 52°$ YZ = 50 ft XY = ?	k. $\angle X = 42°$ XZ = 10 m XY = ?	l. $\angle X = 72°$ XY = 16 m XZ = ?	

7. Solve for x.

a.

b.

c.

d.

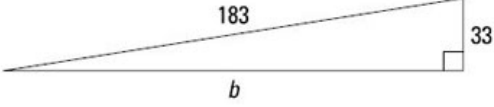8. Solve the given triangles.

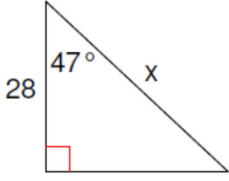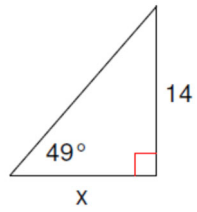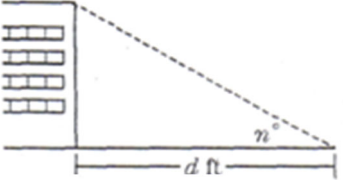a.

b.

c.

d.

e.

f.

g.

h.
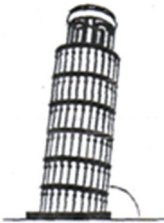
Extending

9. Solve the given triangles.

a.

b.

c.

d.

e.

f.

g.

Chapter 2 Review

	h.	i.	j.
	183 / 33 / b	47° / 28 / X	14 / 49° / X

1. To the nearest tenth of a foot, how tall is a building 100 feet away if the top of the building is sighted at a 20° angle?

2. If an object is dropped from the top of the leaning tower of Pisa, it will land about 13 feet from the base of the tower. If the length (i.e., height) of the tower is 183 ft, what is the angle that the tower makes with the ground?

3. Suppose a tree casts a shadow of length 60 feet. If the distance from the top of the tree to the end of the shadow is 80 feet, what is the angle of elevation from the shadow to the top of the tree?

4. A bird sits on top of a lamppost 20 meters tall. The distance from the bird to the feet of an observer is 25 meters. Find the angle of depression from the bird to the feet of the observer.

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Chapter 2 Review

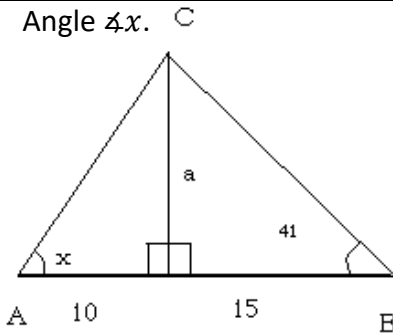Name: _____   Date: _____

Chapter 2 Review

For each type of question, the achievement level is indicated. Showing work is an important strategy in communicating your knowledge and ideas so please be thorough.

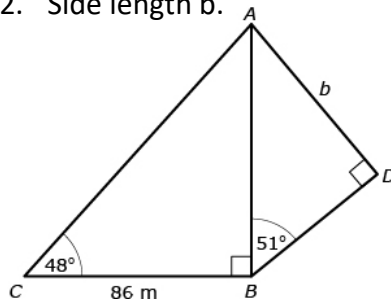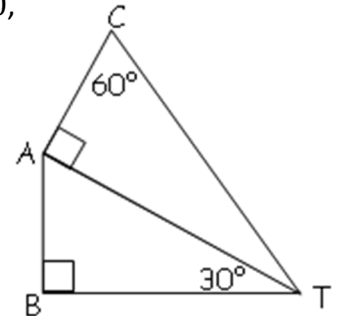| Learning Goal 2.2	Solve problems involving multiple right triangles.

Extending
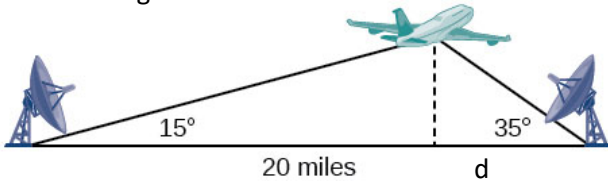
Find the specified quantity.
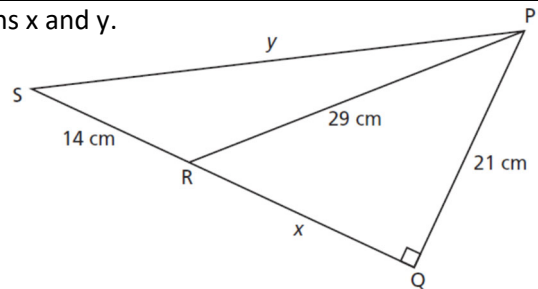
1. Angle $\angle x$.

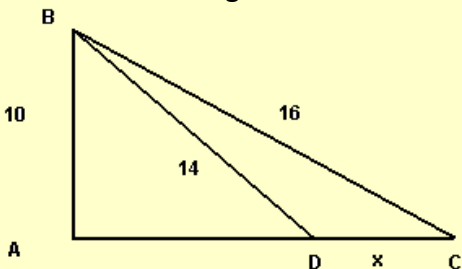2. Side length b.

3. If $\overline{CT} = 10$, find $\overline{AB}$.

4. Side length d.
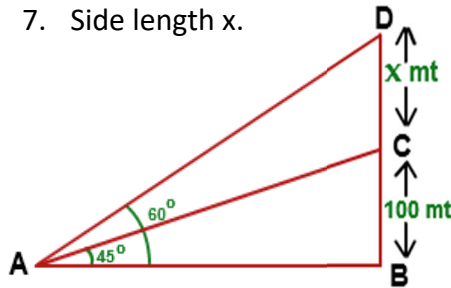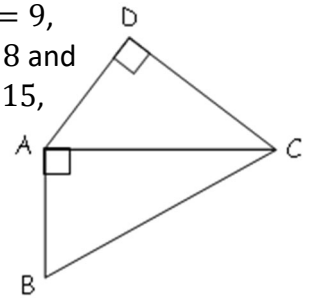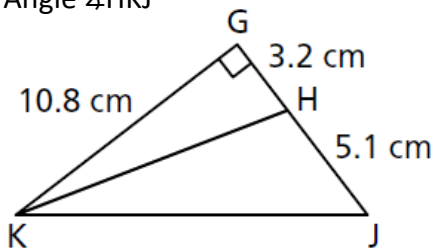
5. Side lengths x and y.

6. Side length x.

7. Side length x.
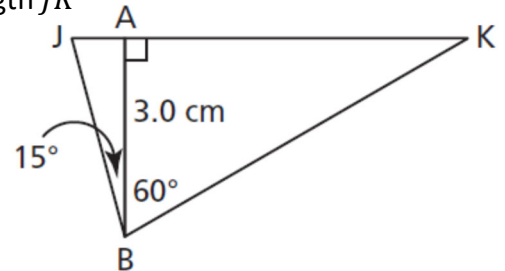
8. If $\overline{AD} = 9$, $\overline{DC} = 8$ and $\overline{BC} = 15$, find $\overline{AB}$

9. Angle $\angle HKJ$
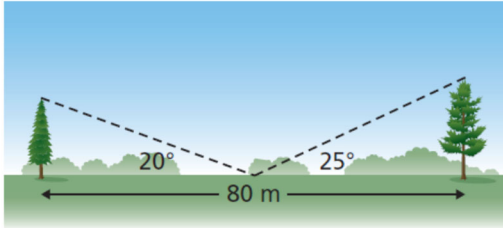
10. Side length $\overline{JK}$

Chapter 2 Review

11.
Two trees are 80 m 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 metre?

12.
At the Muttart Conservatory, the arid pyramid has 4 congruent triangular faces. The base of each face has length 19.5 m and the slant height of the pyramid is 20.5 m. What is the measure of each of the three angles in the face? Give the measures to the nearest degree.