Name: _____ Date: _____

Chapter 2 Review

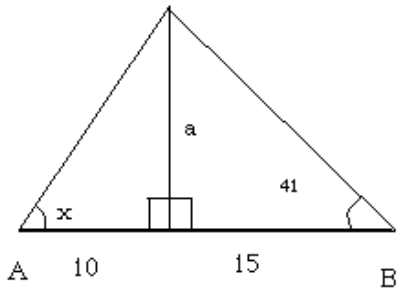
For each type of question, the achievement level is indicated. Showing work is an important strategy in communicating your knowledge and ideas so please be thorough.

Learning Goal 2.2	Solve problems involving multiple right triangles.

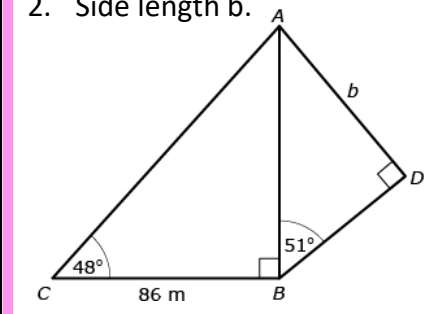
Extending

Find the specified quantity.

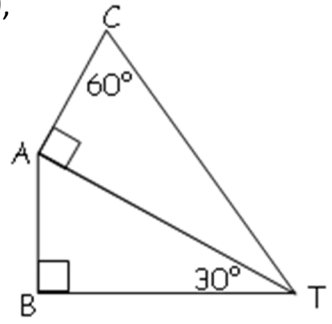
1. Angle $\measuredangle x$.



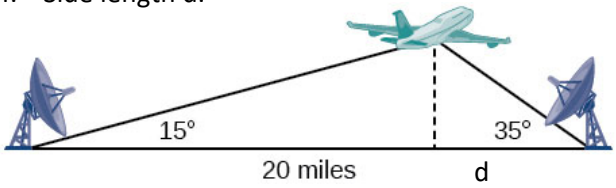
2. Side length b.



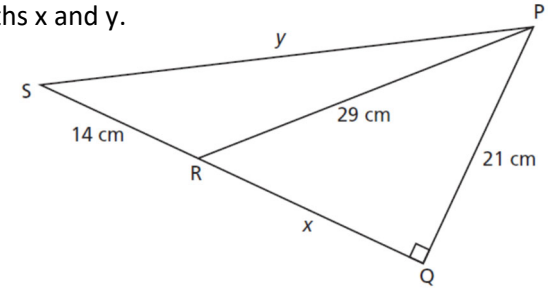
3. If $\overline{CT} = 10$, find $\overline{AB}$.



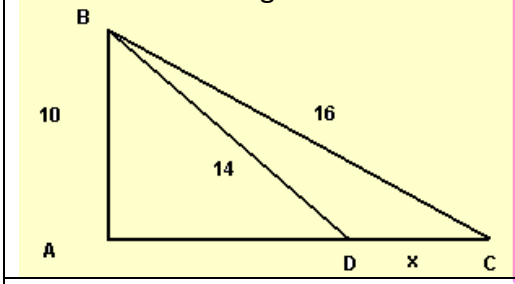
4. Side length d.



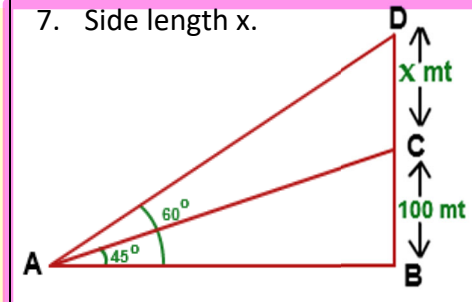
5. Side lengths x and y.



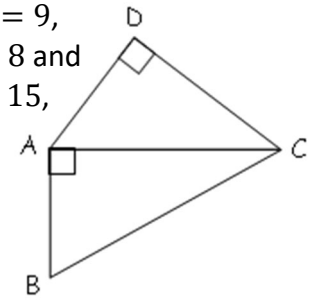
6. Side length x.



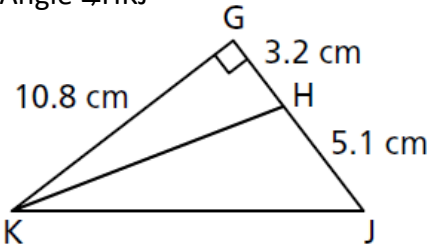
7. Side length x.



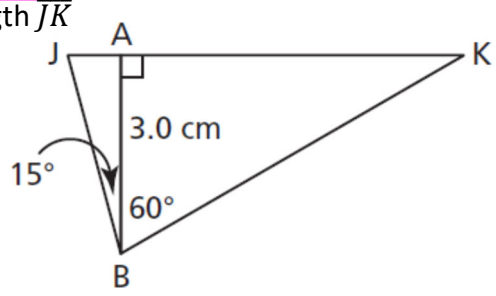
8. If $\overline{AD} = 9$, $\overline{DC} = 8$ and $\overline{BC} = 15$, find $\overline{AB}$



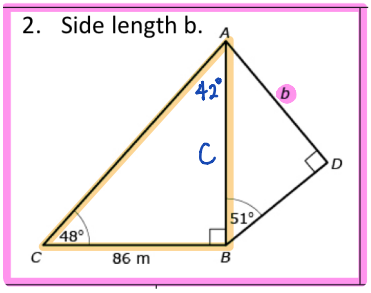
9. Angle $\measuredangle HKJ$



10. Side length $\overline{JK}$



2. Side length b.



$\tan C = \frac{c}{a}$

$86 \times \tan 48 = \frac{c}{86} \times 86$

$C = 86 \times \tan 48$

$C = 95.5 \text{ m}$

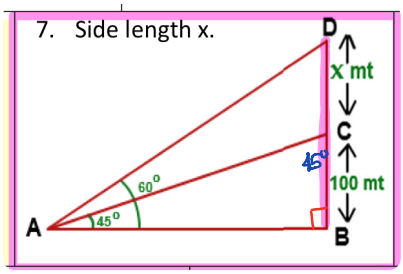
$\sin B = \frac{b}{c}$

$95.5 \times \sin 51 = \frac{b}{95.5} \times 95.5$

$b = 95.5 \times \sin 51$

$b = 74.2 \text{ m}$

7. Side length x.



* NTS *

1. find $\overline{AB}$ (using ΔABC)

$\tan(CAB) = \frac{\overline{CB}}{\overline{AB}}$

$\overline{AB} \times \tan(45) = \frac{100}{\overline{AB}} \times \overline{AB}$

$\frac{\overline{AB} \tan 45}{\tan 45} = \frac{100}{\tan 45}$

$\overline{AB} = 100 \text{ m}$

2. find $\overline{DB}$ (using ΔABD)

$\tan(DAB) = \frac{\overline{DB}}{AB}$

$100 \times \tan 60 = \frac{\overline{DB}}{100} \times 100$

$\overline{DB} = 100 \times \tan 60$

$= 173.2 \text{ m}$

3. $\overline{DC} = \overline{DB} - \overline{CB} = 173.2 - 100 = 73.2 \text{ m}$

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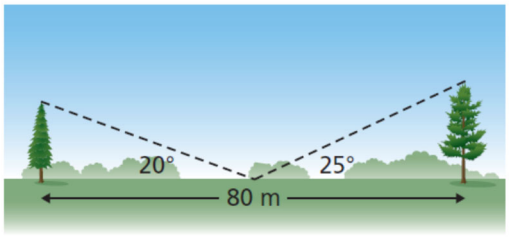
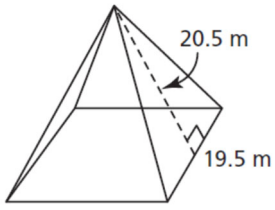
Chapter 2 Review

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.