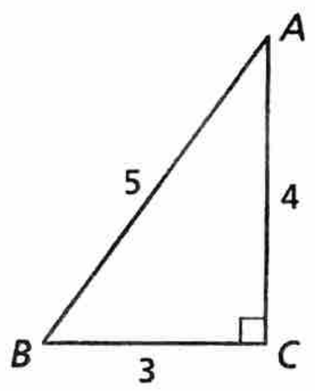
HW # _____ 4.2.2 review worksheet

PRACTICE

Find the tangent of $\angle A$ and $\angle B$. Write each ratio as a fraction and as a decimal rounded to the nearest hundredth.

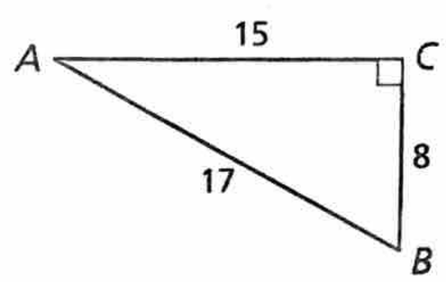
1.



$\tan A = \frac{3}{4} = 0.75$

$\tan B = \frac{4}{3} \approx 1.33$

2.



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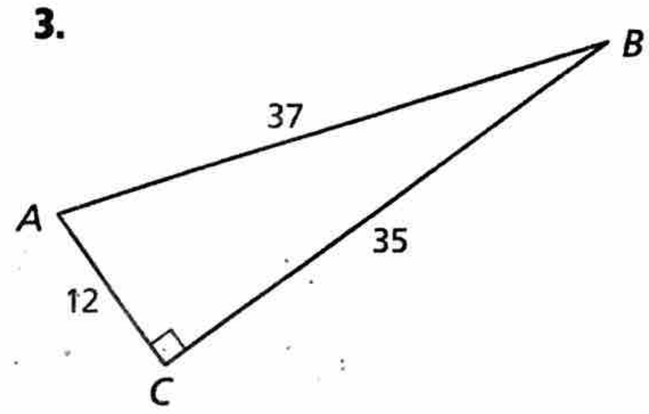
3.



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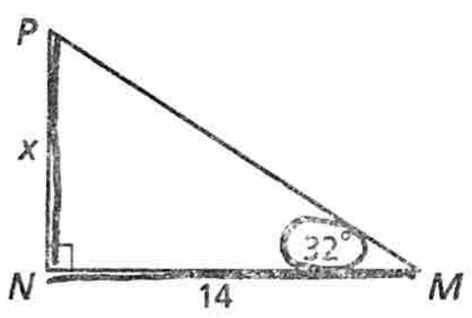
Find the value of x to the nearest tenth.

4.

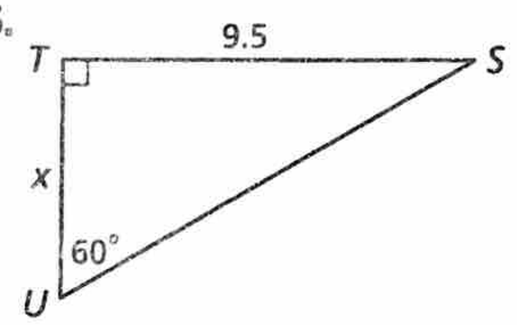


$\tan 32° = \frac{x}{14}$

$14 \tan 32° = x$

$x \approx$ _____

5.



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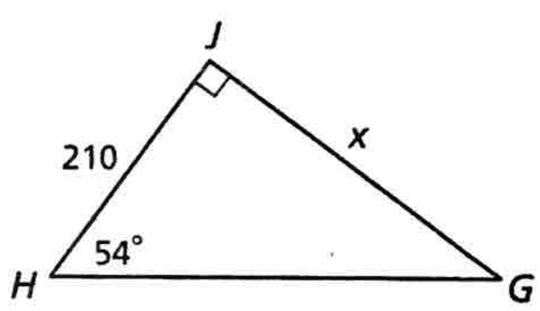
6.



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7. A hiker whose eyes are 5.5 feet above ground stands 25 feet from the base of a redwood tree. She looks up at an angle of 71° to see the top of the tree. To the nearest tenth of a foot, what is the height of the tree?

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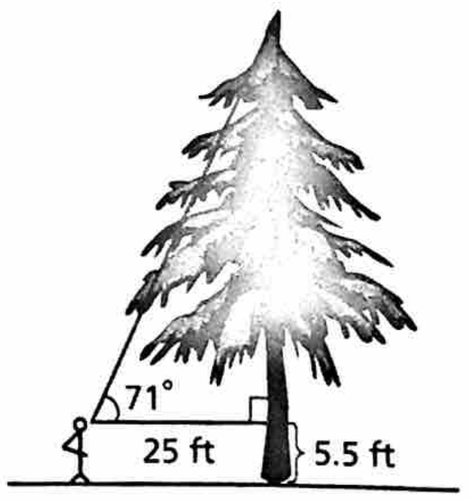

8. Error Analysis To find the distance XY across a large rock formation, a student stands facing one endpoint of the formation, backs away from it at a right angle for 20 meters, and then turns 55° to look at the other endpoint of the formation. The student's calculations are shown. Critique the student's work.

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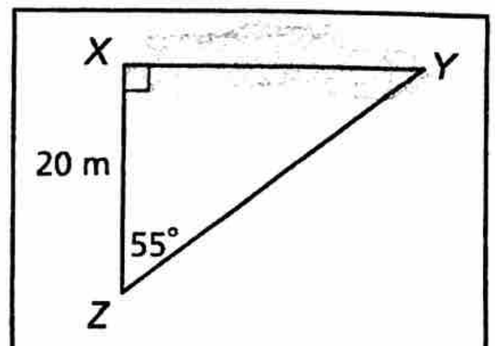


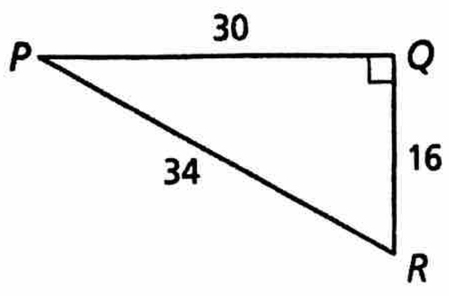
$\tan 55° = \frac{20}{XY}$

$XY \cdot \tan 55° = 20$

$XY = \frac{20}{\tan 55°} \approx 14.0 \text{ m}$

Find the given trigonometric ratios. Write each ratio as a fraction and as a decimal rounded to the nearest hundredth.

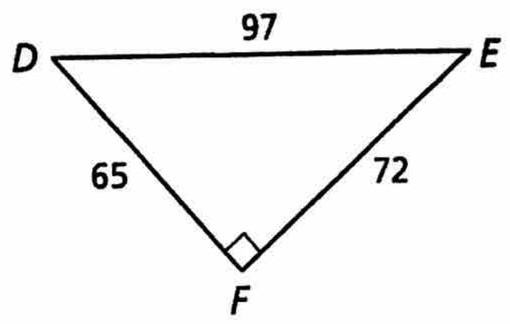
9. $\sin R$, $\cos R$



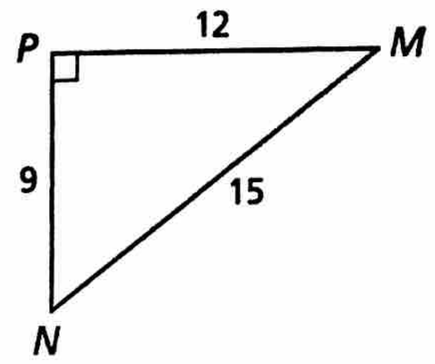
$\sin R = \frac{30}{34} = \frac{15}{17} \approx$ ____

$\cos R = \frac{16}{34} = \frac{\quad}{\quad} \approx$ ____

10. $\cos D$, $\cos E$



11. $\sin M$, $\sin N$

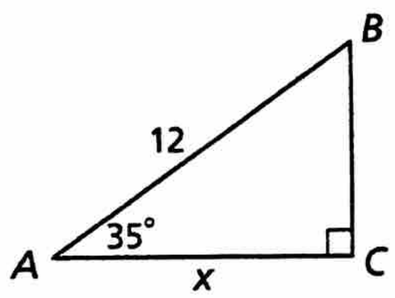


12. Given that $\sin 15° \approx 0.259$, write the cosine of a complementary angle. ____

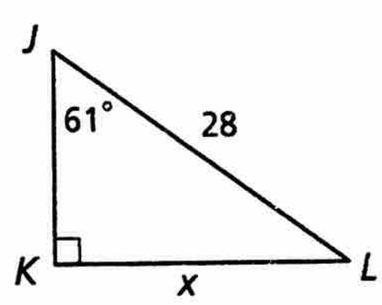
13. Given that $\cos 62° \approx 0.469$, write the sine of a complementary angle. ____

Find the value of x to the nearest tenth.

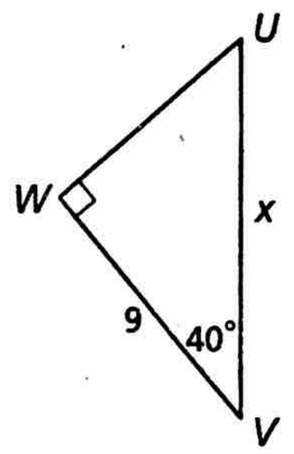
14.



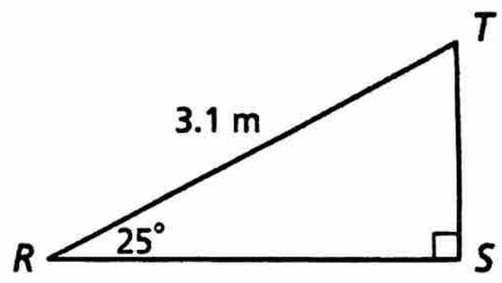
15.



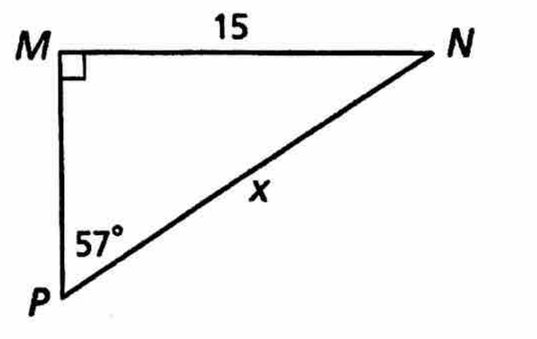
16.



17. You are building a skateboard ramp from a piece of wood that is 3.1 meters long. You want the ramp to make an angle of 25° with the ground. To the nearest tenth of a meter, what is the length of the ramp's base? What is its height?



18. Error Analysis Three students were asked to find the value of x in the figure. The equations they used are shown at right. Which students, if any, used a correct equation? Explain the other students' errors and then find the value of x.



Lee's equation: $\sin 57° = \frac{x}{15}$

Jamila's equation: $\cos 33° = \frac{15}{x}$

Tyler's equation: $\sin 33° = \frac{x}{15}$