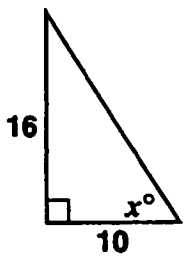
PRACTICE: TRIG. PUZZLE

What do you get when you cross a crab and a math teacher?

To find out, find the missing part of each triangle below using trigonometric ratios. (Round answers to the nearest tenth where necessary.) Shade in the boxes containing the answers. The unshaded boxes will spell out the answer to the riddle.

1.


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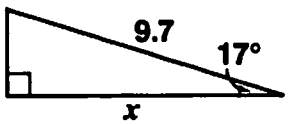

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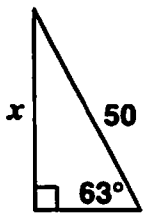

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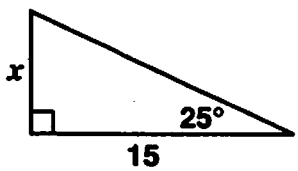

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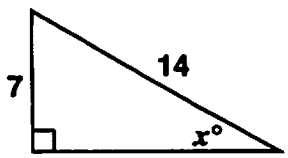

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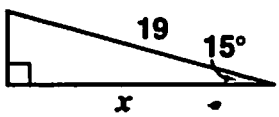

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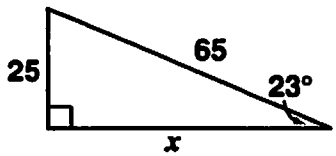
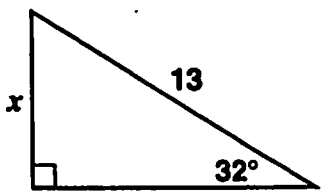


T 58	A 17.4	H 6.9	S 10.2	W 59.8
N 3	A 12	E 9.3	P 14	P 11
Y 9	M 44.6	A 2.5	B 30.8	N 23
S 25	P 48.8	W 8.6	E 22.1	R 13
Q 34.6	L 7	B 18.4	C 15.4	D 30

8.


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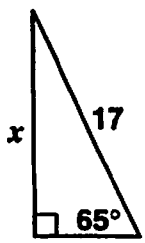

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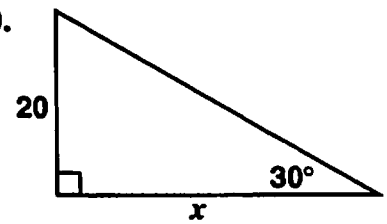

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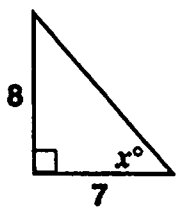

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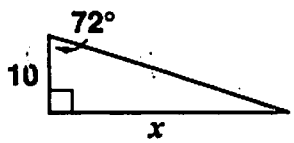


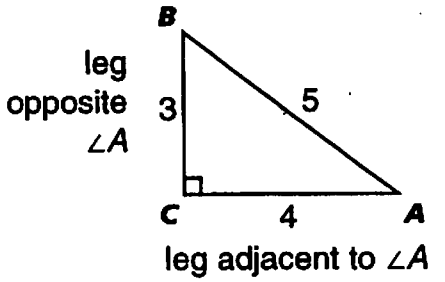
Answer: _____

TRIGONOMETRIC RATIOS

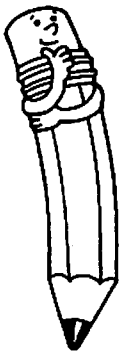
Remember

A trigonometric ratio is a ratio between two sides of a right triangle. *Sine, cosine,* and *tangent* are the three basic ratios. They are abbreviated as *sin, cos,* and *tan.* The made-up name "soh cah toa" can help you memorize the three basic ratios.

$$\sin = \frac{\text{opposite}}{\text{hypotenuse}} \qquad \cos = \frac{\text{adjacent}}{\text{hypotenuse}} \qquad \tan = \frac{\text{opposite}}{\text{adjacent}}$$

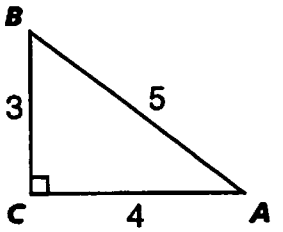


$$\sin A = \frac{\text{opp.}}{\text{hyp.}} = \frac{3}{5} \qquad \cos A = \frac{\text{adj.}}{\text{hyp.}} = \frac{4}{5} \qquad \tan A = \frac{\text{opp.}}{\text{adj.}} = \frac{3}{4}$$



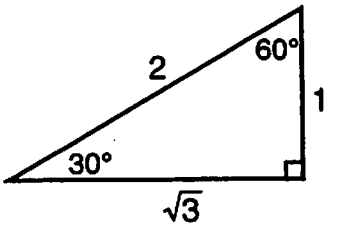
Draw straight lines to match each trigonometric ratio to its value. The uncrossed words will reveal a message.

1.



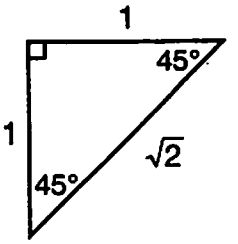
sin B •	**You're**	• $\frac{\text{adj.}}{\text{hyp.}} = \frac{3}{5}$
cos B •	**Get**	• $\frac{\text{opp.}}{\text{adj.}} = \frac{4}{3}$
tan B •	**You**	• $\frac{\text{opp.}}{\text{hyp.}} = \frac{4}{5}$

2.



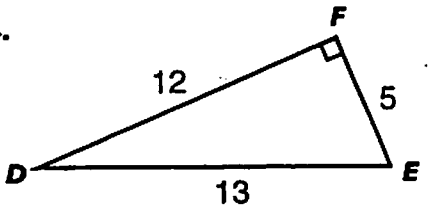
sin 30° •		• $\frac{\sqrt{3}}{2}$
sin 60° •	**need**	• $\frac{\sqrt{3}}{1} = \sqrt{3}$
tan 30° •	**a**	• $\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$
tan 60° •	**great**	• $\frac{1}{2}$

3.



cos 45° •	**trig**	• $\frac{\text{opp.}}{\text{hyp.}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$
tan 45° •	**help**	• $\frac{\text{adj.}}{\text{hyp.}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$
sin 45° •	**math**	• $\frac{1}{1} = 1$

4.



tan D •		• $\frac{12}{13}$
tan E •	**student!**	• $\frac{12}{5}$
cos D •	**expert!**	• $\frac{5}{12}$