Name _____ Class _____ Date _____

Chapter Test — Form B

Chapter 8

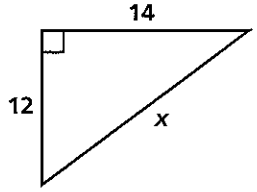
The lengths of three sides of a triangle are given. Describe each triangle as *acute, right,* or *obtuse.*

1. 18, 80, 82

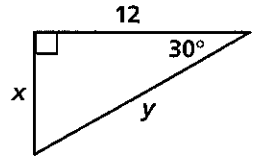
2. 6, 12, 16

Find the values of the variables. Leave your answers in simplest radical form.

3.

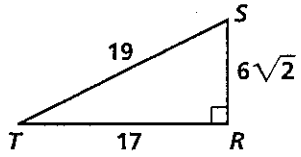


4.



Express sin *T*, cos *T*, and tan *T* as ratios.

5.



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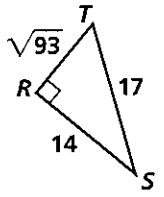
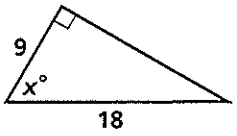
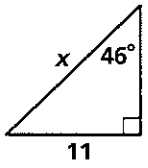


Find the value of *x*. Round lengths of segments to the nearest tenth and angle measures to the nearest degree.

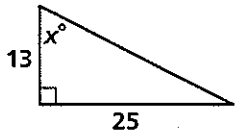
7.



8.



9.

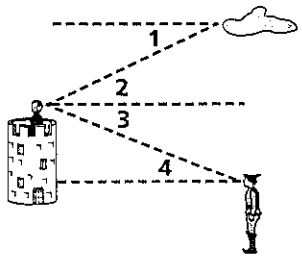


Find the measure of the acute angle that each line makes with a horizontal line. Round your answers to the nearest tenth.

10. $y = \frac{3}{4}x + 2$

11. $y = 5x - 10$

12. Describe each angle as it relates to the objects in the diagram.



a. ∠1 b. ∠2 c. ∠3 d. ∠4

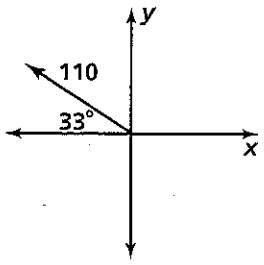
Chapter Test (continued) Form B

Chapter 8

13. An airplane pilot can see the top of a traffic control tower at a 20° angle of depression. The airplane is 5000 ft from the tower. What is the altitude of the airplane?

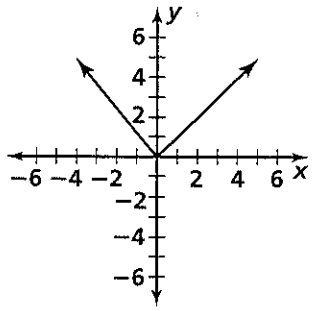
14. **Writing** Let x and y be the measures of two acute angles of a right triangle. Explain why $\frac{\sin x^\circ}{\cos x^\circ} = \tan x^\circ$. Include a diagram with your explanation.

15. Describe the vector using ordered pair notation. Round the coordinates to the nearest tenth.



16. A pack of wolves traveled 15 mi east and 10 mi north. Find the distance from their point of origin to their destination, and find the direction they traveled.

17. Find the sum of the pair of vectors. Give your answers in ordered pair notation.



18. **Open-Ended** Draw two vectors with different directions that have a sum $\langle -5, 2 \rangle$.