Honors Geometry ***** Pretest *****

Name: _____ **Chapter 9B Exam - Spring 2019**

Show All Work: Your teacher reserves the right to give no credit when work is not shown: number your problems on the workspace pages.

Simplify each of the following. Leave answers in exact, simplified, radical form. No decimals allowed.

1.) $\sqrt{711}$

2.) $\sqrt{300}$

3.) $2\sqrt{45} - 5\sqrt{20}$

4.) $\dfrac{8}{\sqrt{14}}$

5.) $\sqrt{\dfrac{5}{2}}$

6.) $\dfrac{\sqrt{15}}{\sqrt{3}}$

7.) $\sqrt{250}$

8.) $3\sqrt{27} - 8\sqrt{75}$

Use the distance formula to find the distance between the given points. Give exact answers in simplified radical form.

9.) (4, – 2), (10, 6)

10.) (17, 6), (10, – 1)

11. Use a Pythagorean triple to find the missing side of each right triangle:

a.) a = _____, b = 120, c = 125 Use: 7 - 24 - 25

b.) a = 60, b = _____, c = 156 Use: 5 - 12 - 13

c.) a = 87, b = 116, c = _____ Use: 3 - 4 - 5

Answer Column

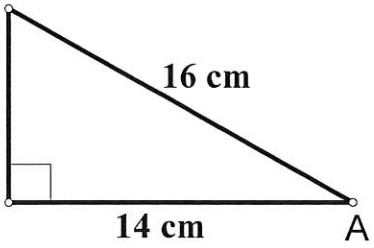
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. a = _____

b = _____

c = _____

In **12 - 13**, give the side ratios for the angles requested. Answers must be in simplified fractional and/or simplified radical form.

12.)



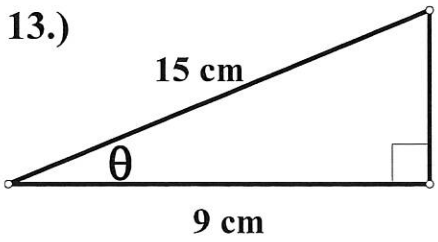
Answer Column

12. sin A = _____

cos A = _____

tan A = _____

13.)



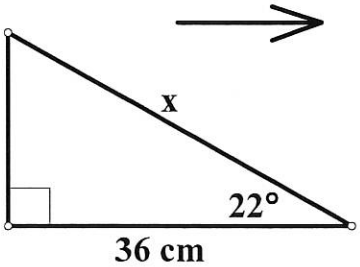
13. sin θ = _____

cos θ = _____

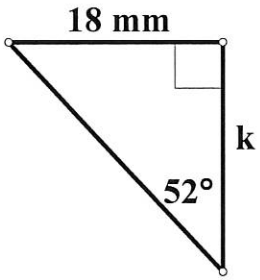
tan θ = _____

In **14 - 17**, use a trig function or an inverse trig function to find the unknown value. Round side lengths and angle measures to the nearest **tenth.** Label all answers with the necessary units.

14.)



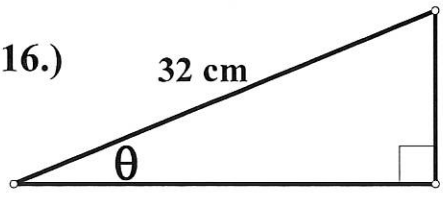
15.)



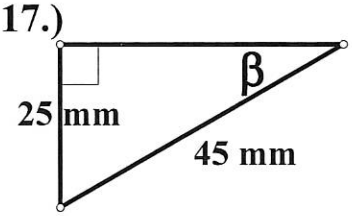
14. x = _____

15. k = _____

16.)



17.)



16. m ∠θ = _____

17. m ∠β = _____

Answer Column

18.) An equilateral triangle has sides of length 16 cm. Find its area.

18. _____

19.) What is the diagonal length of a rectangular prism having length, width, and height of 4 cm, 6 cm, and 8 cm, respectively?

19. _____

20.) What is the slant height of a square pyramid with base perimeter of 96 mm and height of 16 mm?

20. _____

21. One angle of a rhombus measures 120°. If the figure's perimeter is $52\sqrt{3}$ cm, find the length of each of its diagonals.

21. d_1 = _____

d_2 = _____

Bonus: Chapter 9

***** Pretest *****

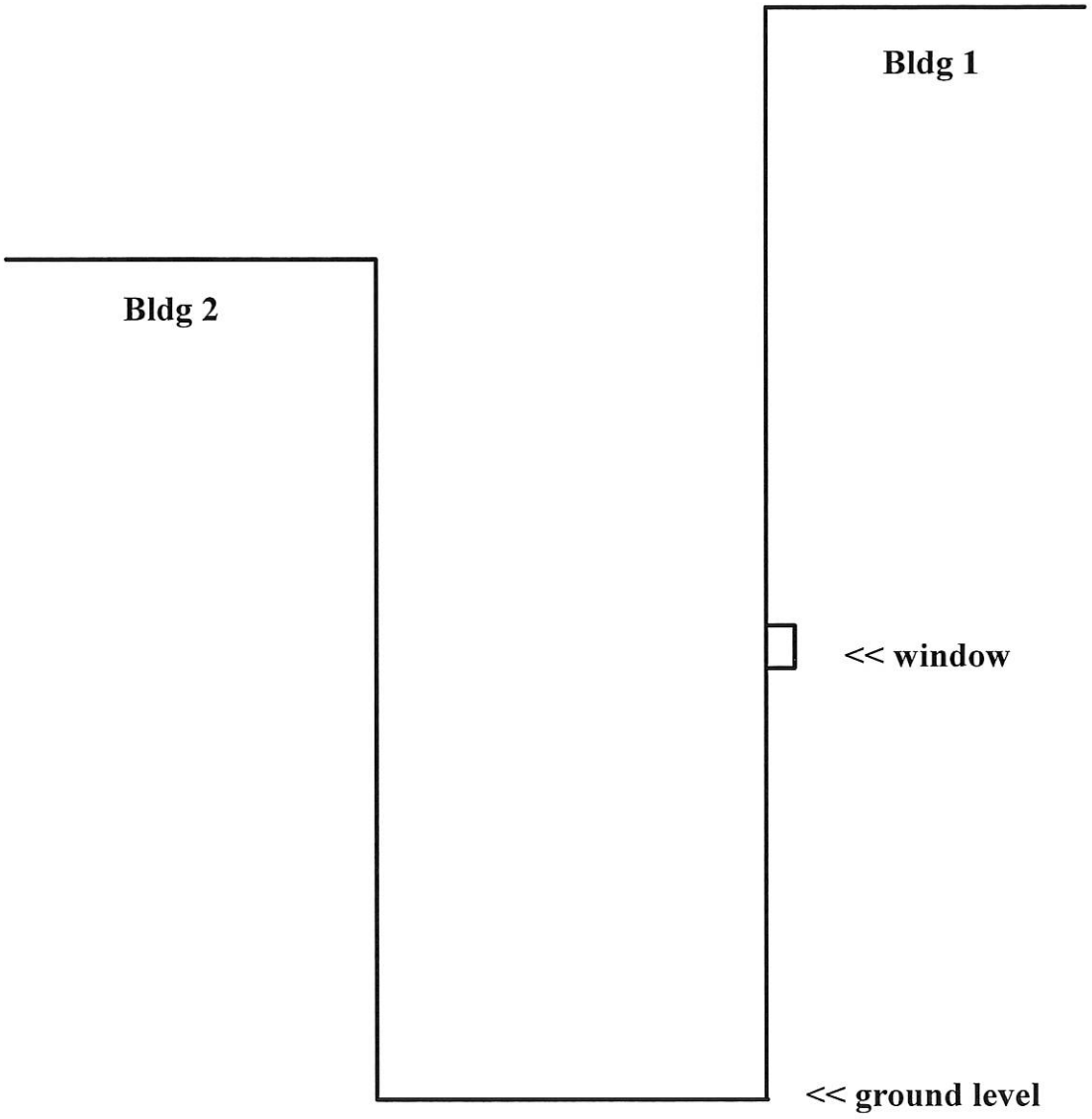
Name: _____

Chapter 9B Exam - Spring 2019

[5%] B1. Given the facts, find the height of Bldg 1:

All units are in feet. Building 1 and Building 2 are 40 feet part. The angle of depression from the top of Bldg 1 to the top of Bldg 2 is 32°. The bottom of the 8-foot, Bldg 1 window depicted is 90 feet from the ground, and the angle of elevation from top of this window to the top of Bldg 2 is 47°.

All work/steps required to find the answer must be shown. Round the final answer to the nearest foot.



Height of Bldg 1: _____