Trigonometry 1.1 Practice Worksheet Name _____

Factor and <u>solve</u> each of the following:

1. $d^2 + 10d - 75 = 0$

2. $2c^2 - 10c - 28 = 0$

3. $5r^2 + 23r + 26 = 0$

4. $2w^2 + w - 28 = 0$

5. $a^2 - 14a + 49 = 0$

6. $3x^2 + 3x - 6 = 0$

7. $x^2 + x - 20 = 0$

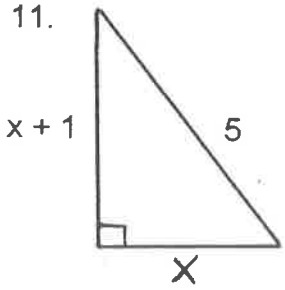
8. $x^2 - 3x - 40 = 0$

9. $v^2 + 5v - 24$

10. $2x^2 + 16x + 32 = 0$

For each of the following right triangles, find the acceptable value(s) of x, then find the lengths of all sides of each triangle.

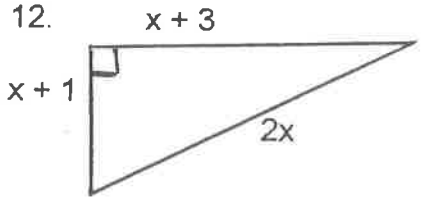
11.



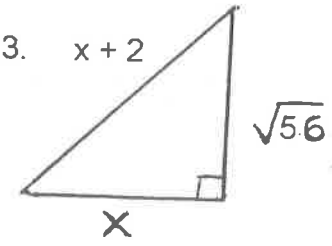
x = _____

sides_____

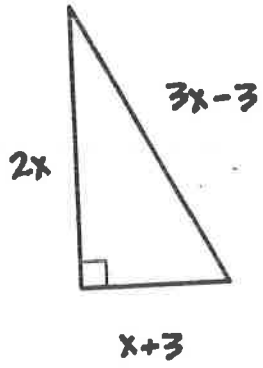
12.

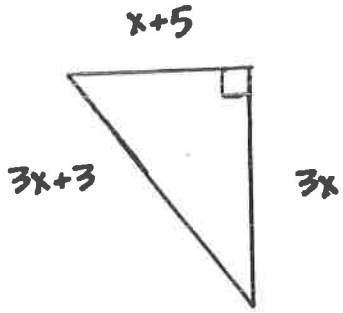


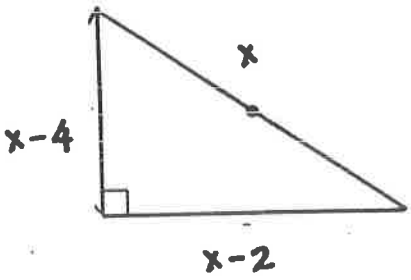
13.



Find x and all sides (Show your work)

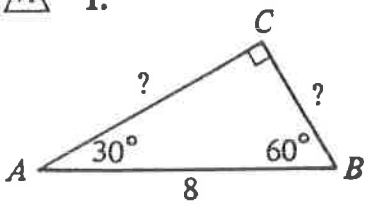






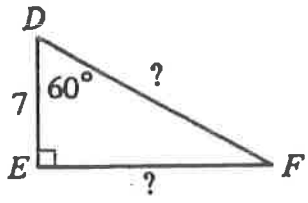
Find the indicated lengths in each right triangle.

1.



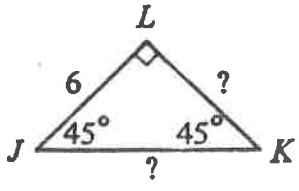
BC = AC =

2.



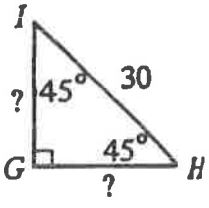
DF = EF =

3.



LK = JK =

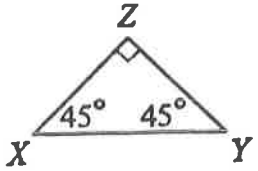
4.



IG = GH =

$\triangle XYZ$ is a 45°–45° rt. triangle. Find the indicated lengths.

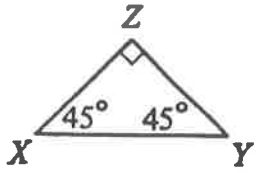
5. $XY = 12$, $XZ =$, $YZ =$



6. $XY = 27$, $XZ =$, $YZ =$

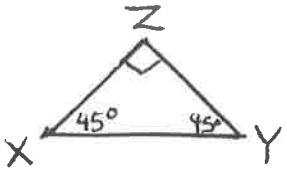
$\triangle XYZ$ is a 45°–45° rt. triangle. Find the indicated lengths.

7. $XY =$ $XZ = 3\sqrt{2}$, $YZ =$



8. $XY =$ $XZ =$ $YZ = 9\sqrt{2}$

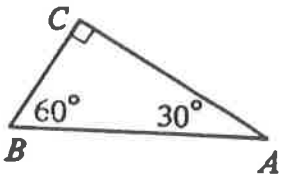
9. $XY =$ $XZ =$ $YZ = 4$



10. $XY = 8\sqrt{2}$, $XZ =$ $YZ =$

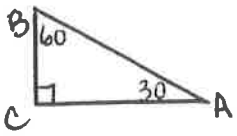
$\triangle ABC$ is a 30°–60° rt. triangle. Find the indicated lengths. (Ex. 11–16)

11. $AB = 36$, $BC =$ $CA =$



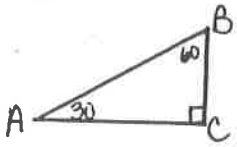
12. $AB = 27$, $BC =$ $CA =$

13. $AB =$ $BC = 9$, $CA =$



14. $AB =$ $BC = 4\sqrt{3}$, $CA =$

15. $AB =$ $BC =$ $CA = 6\sqrt{3}$



16. $AB =$ $BC =$ $CA = 10$

Practice symplifying radicals. Completely simplify the following radicals:

1. $\sqrt{200}$

2. $\sqrt{44}$

3. $5\sqrt{32}$

4. $\sqrt{\frac{49}{300}}$

5. $\frac{\sqrt{12}}{\sqrt{3}}$

6. $\frac{\sqrt{40}}{\sqrt{8}}$

7. $\frac{5 \pm \sqrt{45}}{3}$

8. $\frac{3 \pm \sqrt{45}}{6}$

9. $\frac{4 \pm \sqrt{48}}{2}$

10. $\frac{2 \pm \sqrt{-24}}{2}$