

Math 2 Unit 7 Worksheet 1
Radicals and Pythagorean Theorem

Name: _____
Date: _____ Per: _____

[1-12] Simplify each radical expression.

1. $\sqrt{75}$

2. $\sqrt{24}$

3. $7\sqrt{32}$

4. $10\sqrt{12}$

5. $2\sqrt{6} \cdot \sqrt{3}$

6. $2\sqrt{15} \cdot 3\sqrt{20}$

7. $(\sqrt{11})^2$

8. $(\sqrt{9})^2$

9. $(3\sqrt{2})^2$

10. $(5\sqrt{3})^2$

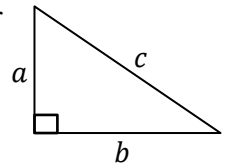
11. $(7\sqrt{5})^2$

12. $(\sqrt{189})^2$

[13-16] Using the Pythagorean Theorem, find the missing side of each right triangle. Leave your answer in simplest radical form.

13. $a = 5 \text{ km}$, $b = 6 \text{ km}$

14. $b = 3 \text{ yd}$, $c = \sqrt{15} \text{ yd}$

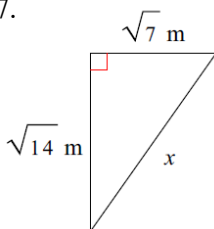


15. $a = 4 \text{ km}$, $b = 6 \text{ km}$

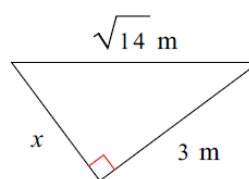
16. $a = \sqrt{5} \text{ km}$, $b = \sqrt{7} \text{ km}$

[17-20] Find the missing side of each triangle. Leave your answer in simplest radical form.

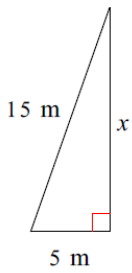
17.



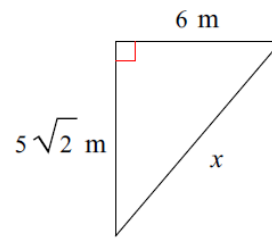
18.



19.

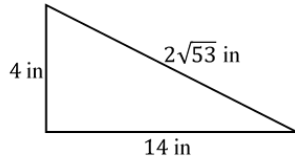


20.

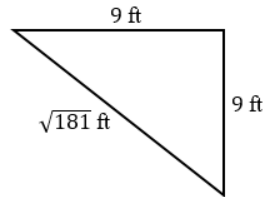


[21-24] State if each triangle is a right triangle. Show work to support your answer.

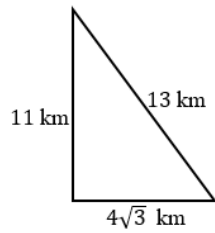
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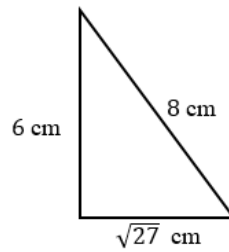
22.



23.



24.



[25-30] Rationalize the denominator.

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

26. $\frac{5}{2\sqrt{6}}$

27. $\frac{6}{4\sqrt{2}}$

28. $\frac{6}{3\sqrt{7}}$

29. $\frac{\sqrt{6}}{\sqrt{3}}$

30. $\frac{2\sqrt{7}}{\sqrt{2}}$