

Name: _____

Grade 8

Unit 1 – Square Roots and Pythagorean Theorem Test REVIEW

Show your work for the following

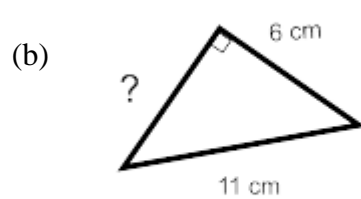
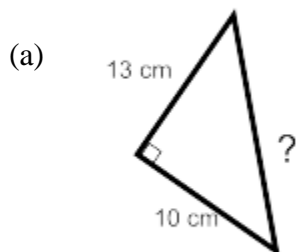
1. List the factors of 216. Is the number a perfect square? Explain with numbers of factors.

2. Find the square root of the following using the given method:

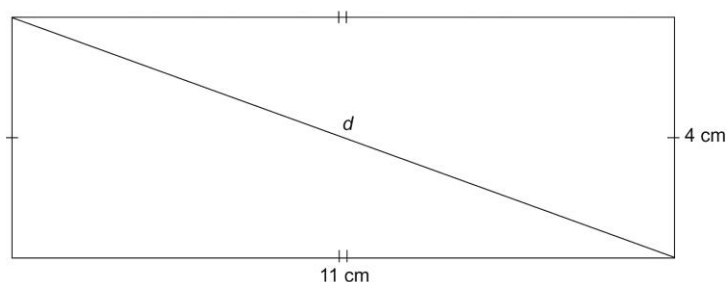
(a) $\sqrt{1764}$ – product of perfect squares

(b) $\sqrt{4900}$ – prime factorization (**hint: TREE**)

3. Find the length of the indicated side in each triangle (SHOW WORK)



4. Find the length of the diagonal, d , in this rectangle.



5. Simplify.
- a) square 49 = _____
- b) square root of 36 = _____
- c) $(\sqrt{35})^2 =$ _____

6. Estimate the following (make sure to show work)

(a) $\sqrt{190}$ (b) $\sqrt{20}$

8. Determine whether a triangle with each set of side lengths is a right triangle. Justify your answers. (Show work)
- 8cm, 9 cm, and 11 cm

10. A trucker has two companies to choose to work at.
- Company A follows route 1 and pays \$15/km
- Company B follows route 2 and pays \$19/km



- a) What is the trucker's pay if he goes with company A?
- b) What is the trucker's pay if he goes with company B?
(Note: this requires 2 steps)
- c) Which is the better option? Explain