Algebra and Geometry Review 14

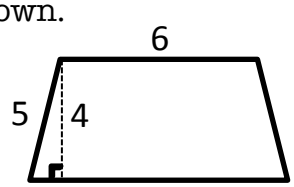
1. Fill in the blanks:

13^2 = _____ 16^2 = _____

14^2 = _____ 17^2 = _____

15^2 = _____ 18^2 = _____

2. Find the length of the lower base of the trapezoid shown.



3. Simplify:

$$\left(3-5\sqrt{2}\right)\left(2+5\sqrt{2}\right)$$

4. Continuing with problem #2, what is the area of the trapezoid?

5. If (0, 32) and (100, 212) are points on a line, what is the equation of the line that goes through both of these points?

6. A man on top of building looks down toward a park at an angle of depression of 24˚. If the park is 1000 feet from the base of the building, how tall is the building?

7. Solve this system of equations:

$$\begin{aligned} x+2y&=-4 \\ 3x-2y&=8 \end{aligned}$$

8. Define the word oblique.

9. Simplify. Write your answer using only positive exponents.

$$\left(\frac{x^2y^{-1}z^{-2}}{2x^0y^2z^{-4}}\right)^{-3}$$

10. In an isosceles triangle, one of the angles measures 100˚ and one measures 40˚. What must be the measure of the third angle?

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