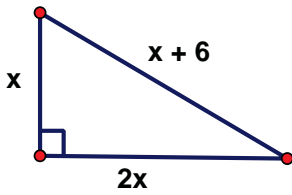


2. Find the value of x. Round to thousandths.



$$x^2 + (2x)^2 = (x + 6)^2$$

$$x^2 + 4x^2 = x^2 + 12x + 36$$

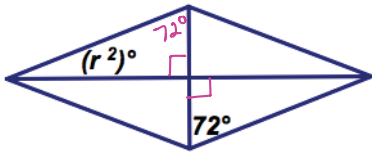
$$4x^2 - 12x - 36 = 0 = 4(x^2 - 3x - 9)$$

$$\begin{aligned} x &= \frac{3 \pm \sqrt{9 + 36}}{2} \\ &= \frac{3 \pm \sqrt{45}}{2} = \frac{3 \pm \sqrt{9 \cdot 5}}{2} \\ &= \frac{3 \pm 3\sqrt{5}}{2} \quad \leftarrow 3 - 3\sqrt{5} < 0 \\ &= \frac{3 + 3\sqrt{5}}{2} \end{aligned}$$

3. Is a triangle with sides 12, 18 and 20 acute, right, or obtuse?

Find the value of each variable.

4. The shape is a rhombus.



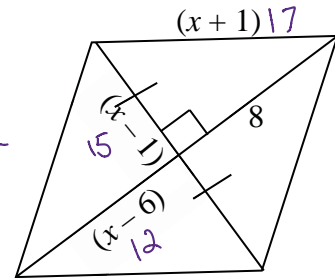
$$r^2 + 72^\circ = 90^\circ$$

$$r^2 = 18$$

$$r = \pm \sqrt{18} = 3\sqrt{2}$$

5. Identify the quadrilateral

Kite because $12 \neq 8$



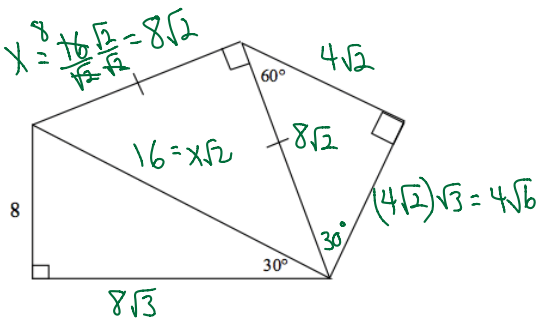
$$(x-1)^2 + 8^2 = (x+1)^2$$

$$x^2 - 2x + 1 + 64 = x^2 + 2x + 1$$

$$4x = 64$$

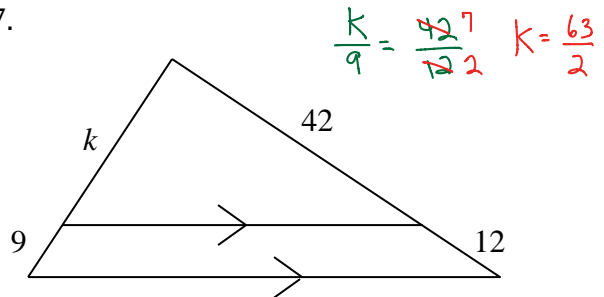
$$x = 16$$

6.



$$x = \frac{8}{\frac{1}{\sqrt{2}}} = 8\sqrt{2}$$

7.

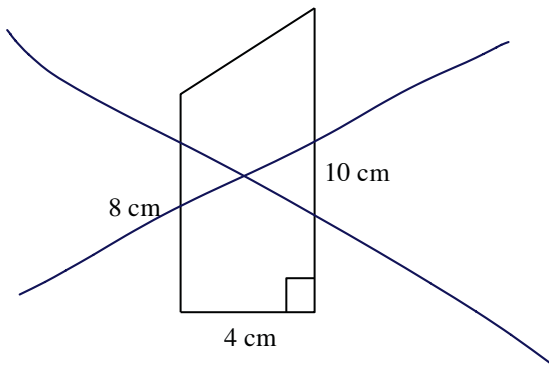


$$\frac{k}{9} = \frac{42}{12} \quad k = \frac{63}{2}$$

8.

$\frac{1}{4} = \frac{2}{8} = \frac{x-3}{x^2-4x} \quad x=6$
 $4x-12 = x^2-4x$
 $0 = x^2-8x-12$
 $= (x-6)(x-2)$

9. Find the **EXACT** area and perimeter of the composite figure.



Circle the best response for each of the following statements about parallelograms.

10. The diagonals of a rectangle bisect each other. **ALWAYS** SOMETIMES NEVER
11. Opposite angles of a rhombus are supplementary. ALWAYS **SOMETIMES** NEVER
12. A square is a rhombus. **ALWAYS** SOMETIMES NEVER
13. A parallelogram has only one pair of parallel sides. ALWAYS SOMETIMES **NEVER**

14. Find the measures of one interior and one exterior angle in this regular polygon.

$$\frac{8-2(180)}{8} = \frac{1080}{8} = 135^\circ \Rightarrow \text{interior}$$

$$45^\circ \Rightarrow \text{exterior}$$



15. Given LION is a rectangle, prove $\triangle NLI$ is congruent to $\triangle ION$.

$$\angle 1 \cong \angle 4$$

$$\angle 2 \cong \angle 3$$

$$\overline{NI} \cong \overline{NI}$$

$$\triangle NLI \cong \triangle ION$$

Alternate Interior \angle 's Thm

Reflexive Property of
Congruence

ASA

