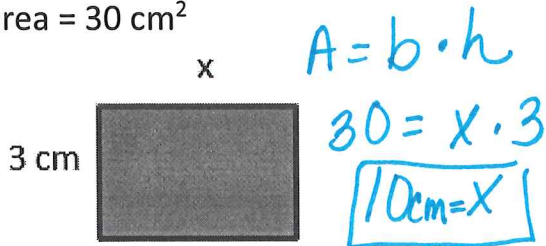


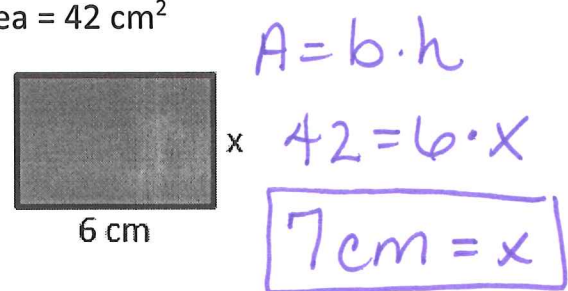
Area with Missing Parts Practice

Directions: Find the following for the rectangle.

1. Find the missing side length if the area = 30 cm^2

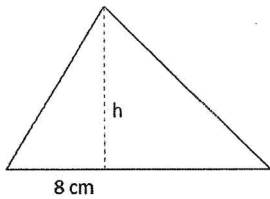


2. Find the missing side length if the area = 42 cm^2



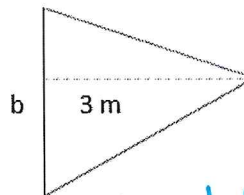
Directions: Find the following for the triangle.

3. Find the missing height if the area = 40 cm^2



$A = \frac{1}{2} b \cdot h$
 $40 = \frac{1}{2} 8 \cdot h$
 $40 = 4h$
 $10 \text{ cm} = h$

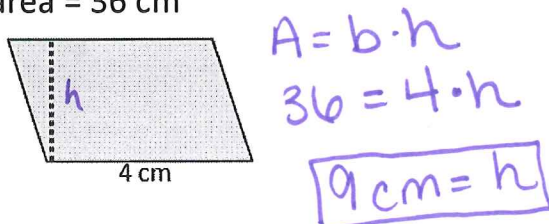
4. Find the missing base if the area = 63 m^2



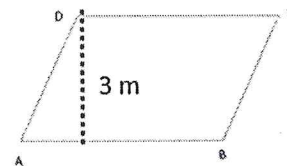
$A = \frac{1}{2} b \cdot h$
 $63 = \frac{1}{2} b \cdot 3$
 $63 = 1.5b$
 $b = 42 \text{ m}$

Directions: Find the following for the parallelogram.

5. Find the missing height if the area = 36 cm^2



6. Find the missing base if the area = 18 m^2



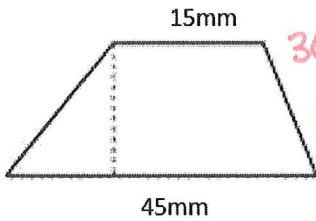
$A = b \cdot h$
 $18 = b \cdot 3$
 $6 \text{ m} = b$

Directions: Find the following for the trapezoid.

7. Find the missing height if the

area = 300 mm^2

$A = \frac{1}{2} h (b_1 + b_2)$



$300 = \frac{1}{2} h (45 + 15)$

$300 = \frac{1}{2} h \cdot 60$

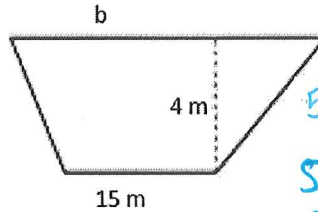
$300 = 30h$

$10 \text{ mm} = h$

8. Find the missing base if the

area = 50 m^2

$A = \frac{1}{2} h (b_1 + b_2)$



$50 = \frac{1}{2} 4 (b + 15)$

$50 = 2(b + 15)$

$50 = 2b + 30$

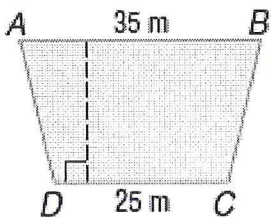
$20 = 2b$

$10 \text{ m} = b$

Directions: Find the following for the figures.

9. Find the missing height if the

trapezoid's area = 750 m^2



$750 = \frac{1}{2} h (35 + 25)$

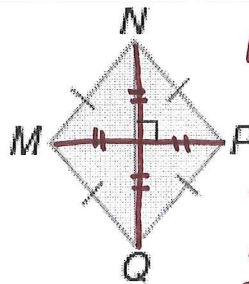
$750 = \frac{1}{2} h \cdot 60$ ← multiply

$750 = 30h$

$25 \text{ m} = h$

10. Find NQ of the rhombus if the

area = 375 in^2



$A = 2 \left(\frac{1}{2} b \cdot h \right)$

$375 = 2 \cdot \frac{1}{2} x \cdot x$

$375 = x^2$

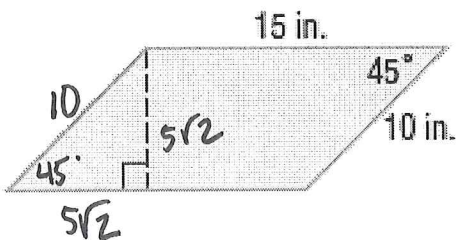
$5\sqrt{15} = x$

$\sqrt{375}$
 $\sqrt{25 \cdot 15}$
 $5\sqrt{15}$

$NQ = 10\sqrt{15} \text{ in}$

For #11-, find the area using **special right triangles**. Answers must be exact values- no rounding!

11.

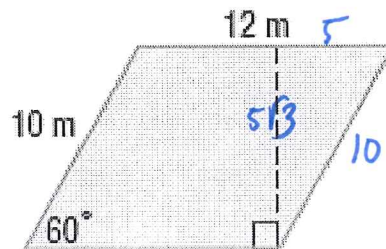


$A = b \cdot h$

$A = 15 \cdot 5\sqrt{2}$

$A = 75\sqrt{2} \text{ in}^2$

12.

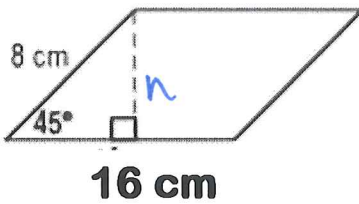


$A = b \cdot h$

$A = 12 \cdot 5\sqrt{3}$

$A = 60\sqrt{3} \text{ m}^2$

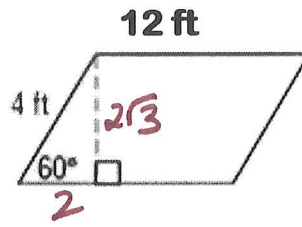
13.



$$A = 16 \cdot 4\sqrt{2}$$

$$A = 64\sqrt{2} \text{ cm}^2$$

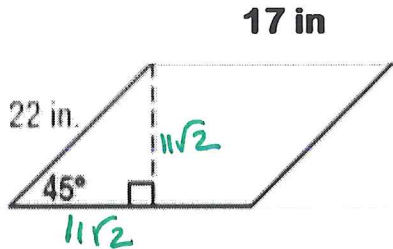
14.



$$A = 12 \cdot 2\sqrt{3}$$

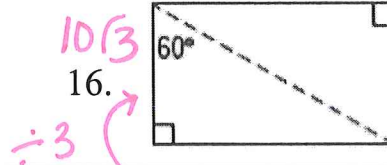
$$A = 24\sqrt{3} \text{ ft}^2$$

15.



$$A = 17 \cdot 11\sqrt{2}$$

$$A = 187\sqrt{2} \text{ in}^2$$



$$A = b \cdot h$$

$$A = 30 \cdot 10\sqrt{3}$$

$$A = 300\sqrt{3} \text{ cm}^2$$

17. Keisha designed a garden that is shaped like two congruent rhombi. She wants the long diagonals lined with a stone walkway. The total area of the garden is 150 square feet, the shorter diagonals (dashed) are each 12 feet long.

a.) Find the length of each stone walkway (longer diagonals).

$$A_T = 4 \cdot \frac{1}{2} b \cdot h$$

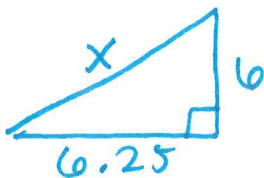
$$150 = 4 \cdot \frac{1}{2} b \cdot 6$$

$$150 = 2b \cdot 6$$

$$150 = 12b$$

$$b = 12.5 \text{ ft}$$

b.) Find the length of each side of the garden.



$$(6.25)^2 + 6^2 = x^2$$

$$39.0625 + 36 = x^2$$

$$75.0625 = x^2$$

$$x \approx 8.66 \text{ ft}$$

