

Name: _____

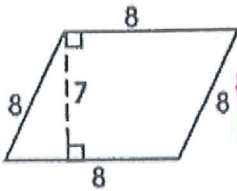
Date: _____

Recalling Area, Finding Missing Length Figures

Homework

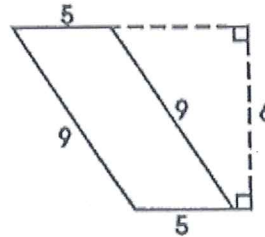
Find the area of each figure. *Don't forget your units!*

1.



$$A = (7)(8) \cdot 2$$

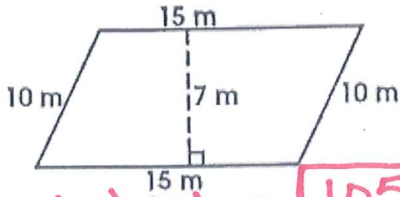
$$A = 56 \text{ units}^2$$



$$A = (5)(6)$$

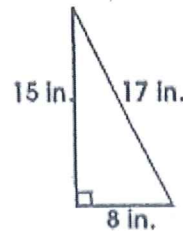
$$A = 30 \text{ units}^2$$

3.



$$A = (15)(7) = 105 \text{ m}^2$$

4.

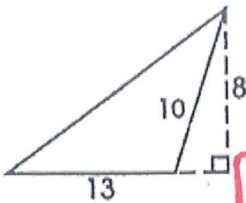


$$A = \frac{1}{2} b \cdot h$$

$$A = \frac{1}{2} (8)(15)$$

$$A = 60 \text{ in}^2$$

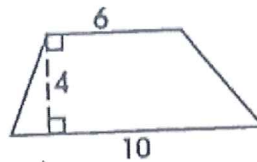
5.



$$A = \frac{1}{2} (8)(13)$$

$$A = 52 \text{ units}^2$$

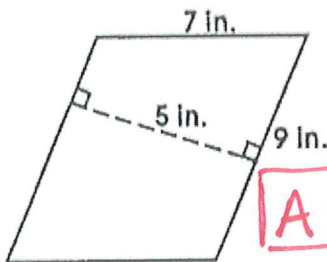
6.



$$A = \frac{1}{2} (4)(6+10)$$

$$A = 32 \text{ units}^2$$

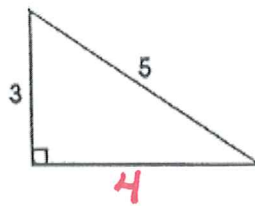
7.



$$A = (9)(5)$$

$$A = 45 \text{ in}^2$$

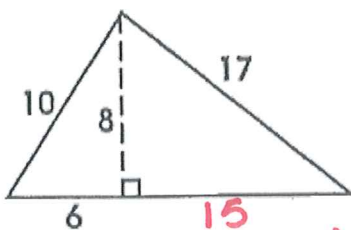
8.



$$A = \frac{1}{2} (3)(4)$$

$$A = 6 \text{ units}^2$$

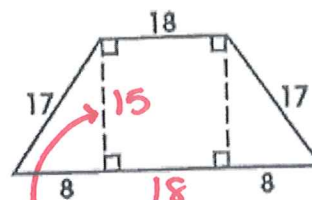
9.



$$A = \frac{1}{2} (8)(21)$$

$$A = 84 \text{ units}^2$$

10.



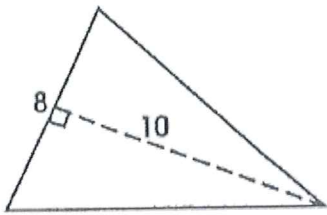
$$A = \frac{1}{2} (15)(18+34)$$

$$A = 390 \text{ units}^2$$

$$8^2 + x^2 = 17^2$$

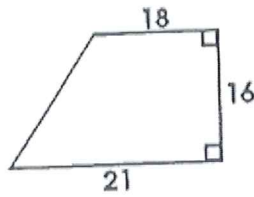
$$x = 15$$

11.



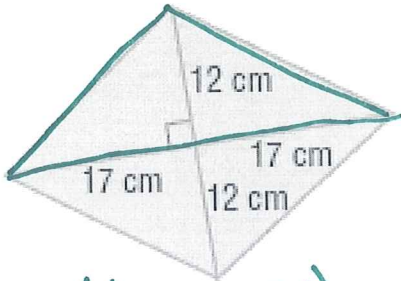
$$A = 40 \text{ units}^2$$

12.



$$A = 312 \text{ units}^2$$

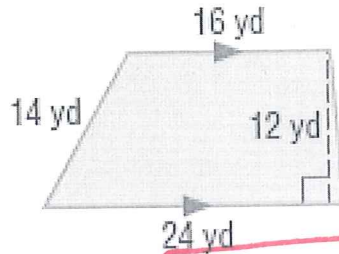
13.



$$A = 2 \left(\frac{1}{2} \cdot 12 \cdot 34 \right)$$

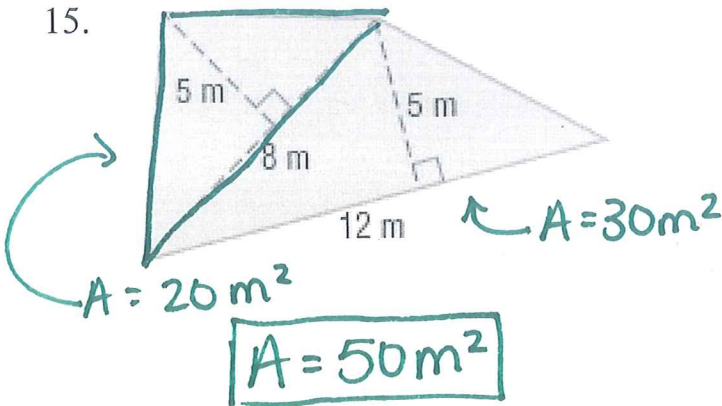
$$A = 408 \text{ cm}^2$$

14.



$$A = 240 \text{ yd}^2$$

15.



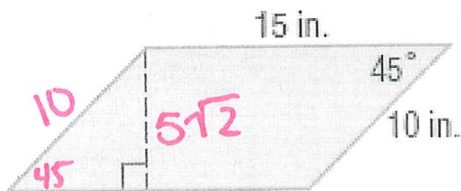
$$A = 20 \text{ m}^2$$

$$A = 50 \text{ m}^2$$

$$A = 30 \text{ m}^2$$

For #16 and 17, find the area using special right triangles.

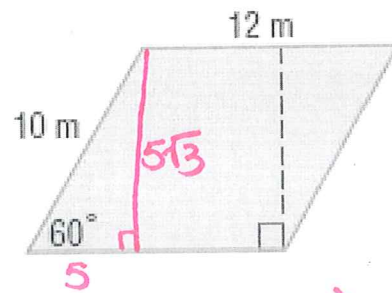
16.



$$A = 15(5\sqrt{2})$$

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

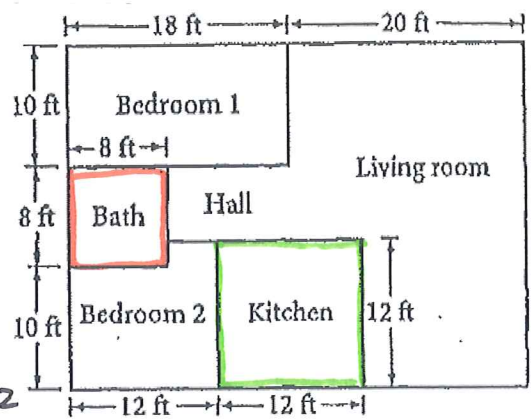
17.



$$A = (12)(5\sqrt{3})$$

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

18. The Sibleys are tiling their kitchen and bathroom. Find the area of the bathroom and kitchen. If each tile is 6 inches by 6 inches, how many tiles will the Sibleys need?



$$\text{Bathroom} = (8)(8) = 64 \text{ ft}^2$$

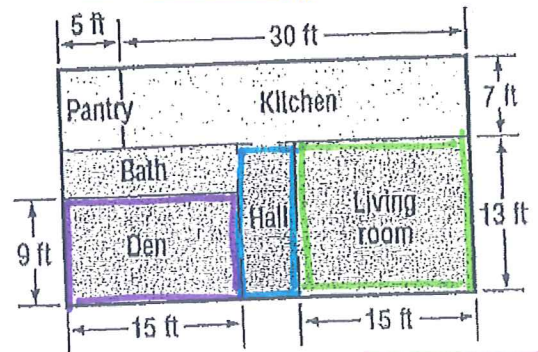
$$\text{Kitchen} = (12)(12) = 144 \text{ ft}^2$$

$$\text{Total: } 64 + 144 = 208 \text{ ft}^2$$

$$\text{Tiles} = (208)(4) = \boxed{832 \text{ tiles}}$$



19. The Smiths are planning to carpet part of their house. The carpet they plan to buy is sold by the square yard. Find the amount of carpeting needed to cover the living room, den, and hall if all are rectangular rooms. (3 ft = 1 yd)



$$\text{Living Room} = (13)(15) = 195 \text{ ft}^2$$

$$\text{Den} = (9)(15) = 135 \text{ ft}^2$$

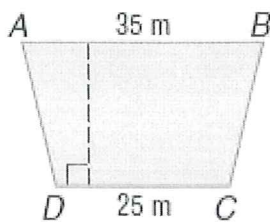
$$\text{Hall} = (5)(13) = 65 \text{ ft}^2$$

$$\text{Total: } 195 + 135 + 65 = 395 \text{ ft}^2$$

$$\frac{395}{9} = \boxed{43.\bar{8} \text{ yd}^2}$$

For #20-21, find a missing length.

20. Find the height of trapezoid ABCD.



$$A = 750 \text{ m}^2$$

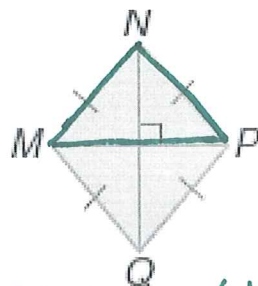
$$750 = \frac{1}{2} \cdot h \cdot (35 + 25)$$

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

$$750 = 30h$$

$$\boxed{h = 25 \text{ m}}$$

21. If MP is 25 inches, find NQ.



$$A = 375 \text{ in}^2$$

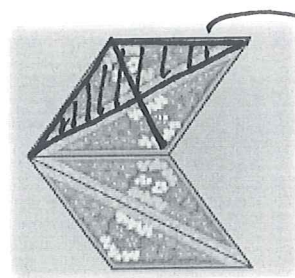
$$375 = 2 \left(\frac{1}{2} (25) h \right)$$

$$375 = 25h$$

$$h = 15 \Rightarrow \boxed{NQ = 15 \text{ in}}$$

22. **GARDENS** For Exercises 32 and 33, use the following information.

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, and the shorter diagonals are each 12 feet long.



32. Find the length of each stone walkway.

33. Find the length of each side of the garden.

$$32. 150 = 4 \left(\frac{1}{2} \cdot b \cdot 6 \right)$$

$$150 = 4(3b)$$

$$150 = 12b$$

$$b = 12.5$$

each stone walkway
is 12.5 feet long!

$$33. 6^2 + 6.25^2 = x^2$$

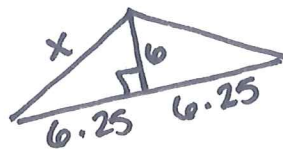
$$36 + 39.0625 = x^2$$

(just round)

$$\sqrt{75} = x^2$$

$$\sqrt{25} \sqrt{3}$$

$$5$$



each side is $5\sqrt{3}$ feet
long