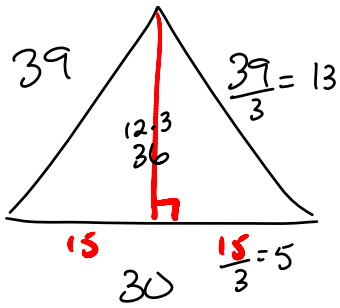


10.1 Study Guide

1. Find the area of an isosceles triangle with sides 39, 39 and 30.

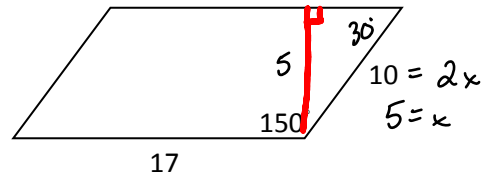


$$A = \frac{bh}{2}$$

$$= \frac{30 \cdot 36}{2}$$

$$= \boxed{540u^2}$$

2. Find the area of the parallelogram.

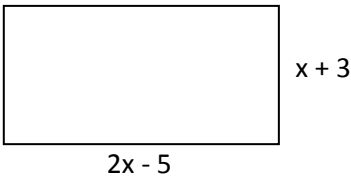


$$A = bh$$

$$= 17 \cdot 5$$

$$= \boxed{85u^2}$$

3. Find the perimeter and area of the rectangle.



$$P = 2(2x - 5) + 2(x + 3)$$

$$= 4x - 10 + 2x + 6$$

$$= \boxed{6x - 4}$$

$$A = (2x - 5)(x + 3)$$

$$= 2x^2 + 6x - 5x - 15$$

$$= \boxed{2x^2 + x - 15}$$

4. Find the area of a trapezoid whose bases measure 6 in and 14 in, and the height is 7 in.

$$A = \frac{b_1 + b_2}{2} \cdot h$$

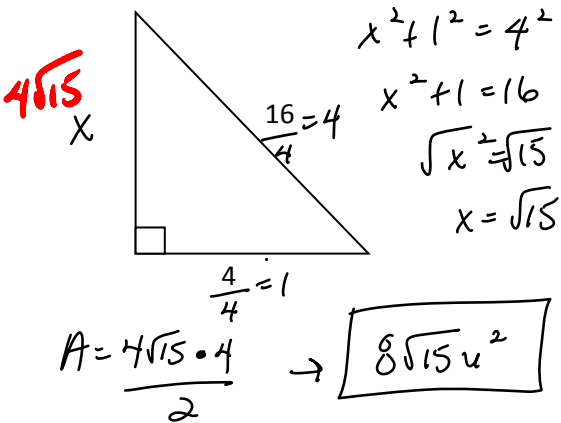
$$= \frac{6 + 14}{2} \cdot 7$$

$$= \frac{20}{2} \cdot 7$$

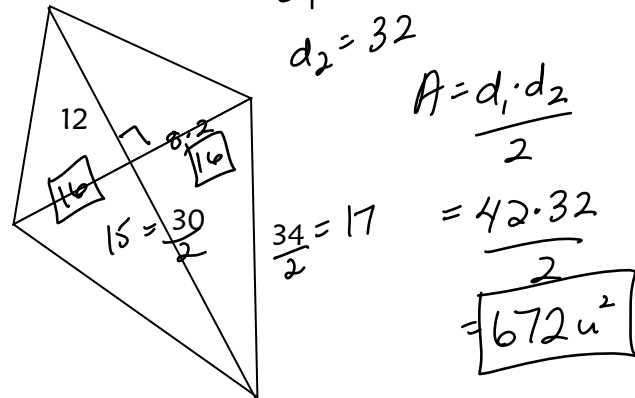
$$= 10 \cdot 7$$

$$= \boxed{70 \text{ in}^2}$$

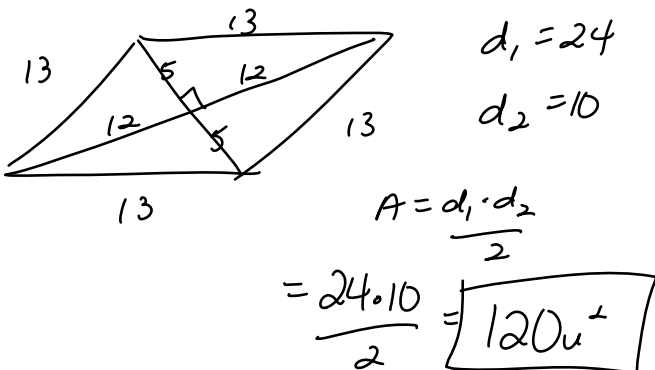
5. Find the area.



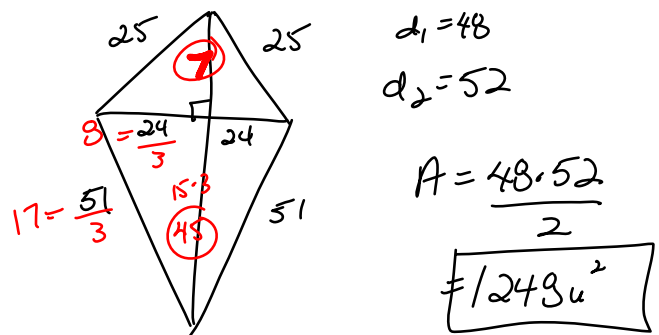
6. Find the area of the kite.



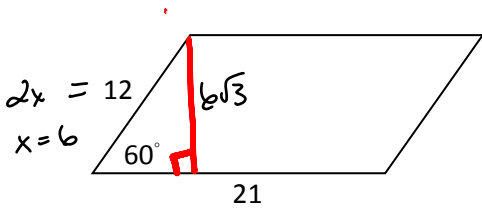
7. Find the area of a rhombus whose perimeter is 52 and the longer diagonal is 24.



8. Find the area of a kite with sides 25, 25, 51, 51, and The shorter diagonal is 48.



9. Find the area of the parallelogram.



$$A = 6\sqrt{3} \cdot 21$$

$$= \boxed{126\sqrt{3} \text{ u}^2}$$

10. Find the height of a triangle in which the base is 14 cm and the area is 77 cm².

$$A = \frac{bh}{2}$$

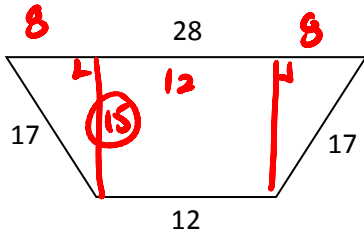
$$77 = \frac{14h}{2}$$

$$11 \text{ cm}$$

$$77 = 7h$$

$$11 = h$$

11. Find the area of the trapezoid.

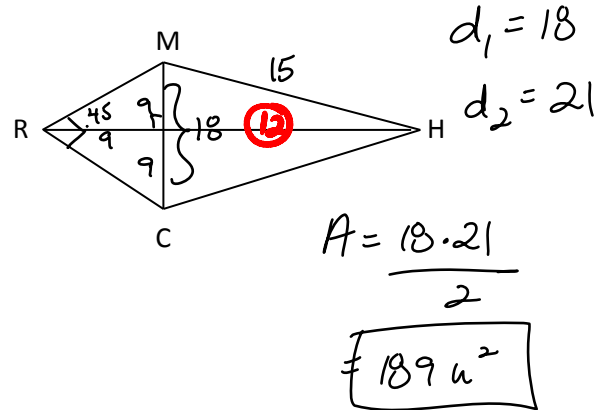


$$A = \frac{28+12}{2} \cdot 15$$

$$= 20 \cdot 15$$

$$= \boxed{300 \text{ u}^2}$$

12. Find the area of a kite given $\angle MRC$ is a right angle, $MC = 18$ and $MH = 15$.



$$d_1 = 18$$

$$d_2 = 27$$

$$A = \frac{18 \cdot 27}{2}$$

$$= \boxed{243 \text{ u}^2}$$

13. Find the area of a rhombus if $d_1 = (6x - 8)$ and $d_2 = (11x + 3)$.

$$A = \frac{(6x-8)(11x+3)}{2}$$

$$= \frac{66x^2 + 18x - 88x - 24}{2}$$

$$= \frac{66x^2 - 70x - 24}{2}$$

$$= \boxed{33x^2 - 35x - 12}$$

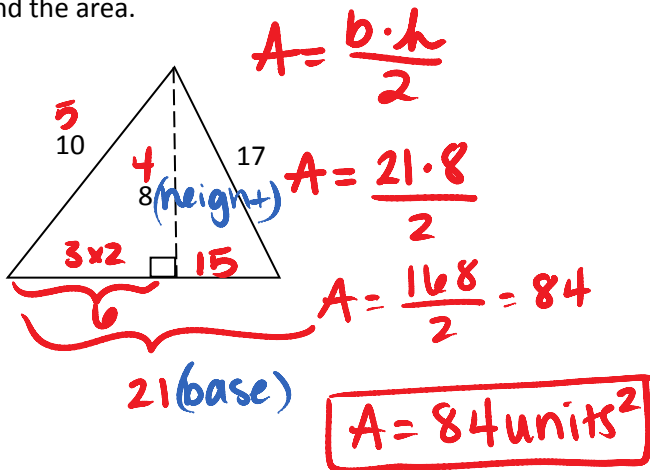
14. If the area of a kite is 168 in² and $d_1 = 16$, what is d_2 ?

$$168 = \frac{16 \cdot d}{2}$$

$$168 = 8d$$

$$\boxed{21 = d}$$

15. Find the area.



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

$$A = \frac{21 \cdot 8}{2}$$

$$A = \frac{168}{2} = 84$$

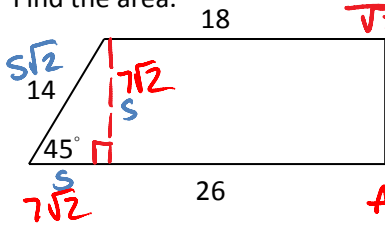
$$\boxed{A = 84 \text{ units}^2}$$

16. Find the base of a rectangle in which the area is 204 m² and the height is 17 m.

$$204 = 17b$$

$$\boxed{12 \text{ m}}$$

17. Find the area.



$$\frac{5\sqrt{2}}{\sqrt{2}} = 14 \quad \frac{\sqrt{2}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{14\sqrt{2}}{2} = 7\sqrt{2}$$

$$A = \frac{b_1 + b_2}{2} \cdot h$$

$$A = \frac{26 + 18}{2} \cdot 7\sqrt{2}$$

$$A = 22 \cdot 7\sqrt{2} = 154\sqrt{2}$$

$$A = 154\sqrt{2} \text{ units}^2$$

19. Find b_1 of a trapezoid in which $A = 18x^2$, $b_2 = 3x$ and $h = 6x$.

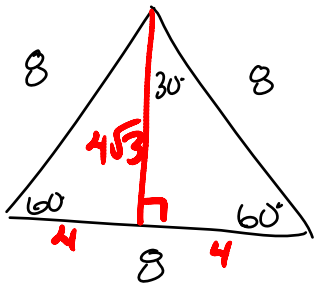
$$18x^2 = \frac{(b_1 + 3x) \cdot 6x}{2}$$

$$6x = b_1 + 3x$$

$$3x = b_1$$

$$\frac{18x^2}{3x} = \frac{(b_1 + 3x) \cdot 3x}{6x}$$

21. Find the area of an equilateral triangle with a perimeter of 24 cm.



$$A = \frac{8 \cdot 4\sqrt{3}}{2}$$

$$= 16\sqrt{3} \text{ cm}^2$$

18. Find the median of a trapezoid if the bases are 9 and 13, and the height is 5. Then find the area.

$$M = \frac{9 + 13}{2}$$

$$M = 11$$

$$A = Mh$$

$$= 11 \cdot 5$$

$$= 55$$

20. Find the area of a rhombus if one diagonal measures 14 ft and the other measures 19 ft.

$$A = \frac{14 \cdot 19}{2}$$

$$= 133 \text{ ft}^2$$