Part 3: Area of Kites and Rhombus

$$A = \frac{d_1 d_2}{2}$$

1. Find the area of the rhombus.

15   d_1
39 m   39
34   72 m   36 d_2
5
39   39
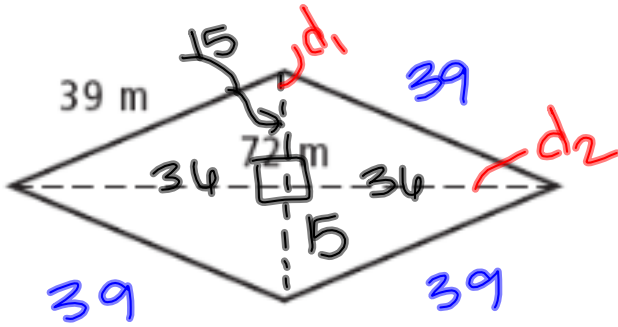
$36^2 + b^2 = 39^2$
$b^2 = 225$
$b = 15$

$d_1 = 30$
$d_2 = 72$

$A = \dfrac{30(72)}{2} = \boxed{1080 \, m^2}$

2. Find the area of the kite.

4.2   28.7
29 in.   20 in
y 28.7
35 in.
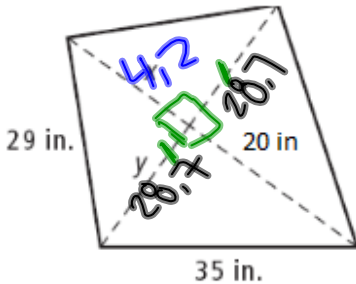
$20^2 + y^2 = 35^2$
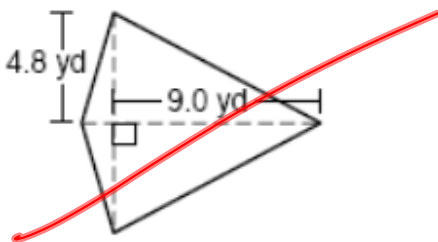$\sqrt{y^2} = \sqrt{825}$
$y = 28.7$

$d_1 = 57.4$

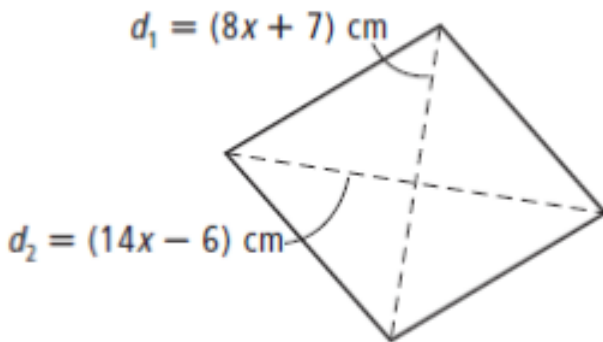$28.7^2 + x^2 = 29^2$
$\sqrt{x^2} = \sqrt{17.3}$
$x = 4.2$

$d_2 = 24.2$

$A = \dfrac{57.4 \, (24.2)}{2} = \boxed{694.5 \, in^2}$

3. Find the perimeter of a kite in which the A = 49.92 sq. yds.
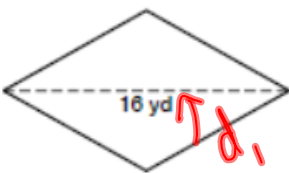
4.8 yd
9.0 yd

1

4. Find the area of the rhombus.

$d_1 = (8x + 7)$ cm

$d_2 = (14x - 6)$ cm

$$A = \frac{(8x+7)(14x-6)}{2}$$

$$\frac{112x^2 - 48x + 98x - 42}{}$$

$$\frac{112x^2 + 50x - 42}{2}$$

$$\boxed{(56x^2 + 25x - 21) \, cm^2}$$

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5. Find d_2 of the rhombus in which the A = $72x^2$ yd²
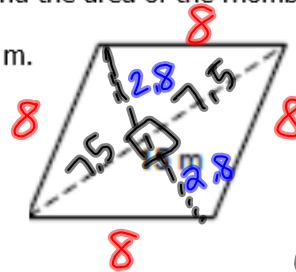
16 yd $\uparrow d_1$

$$A = \frac{d_1 d_2}{2}$$

$$72x^2 = \frac{16 \, d_2}{2}$$

$$\frac{72x^2}{8} = \frac{8d_2}{8}$$

$$\boxed{d_2 = 9x^2 \, yd}$$

6. Find the area of the rhombus whose sides are 8 m.

8

8   2.8   7.5   8

7.5   8 m   2.8

8

$d_1 = 15$
$d_2 = 5.6$

$$7.5^2 + b^2 = 8^2$$
$$\sqrt{b^2} = \sqrt{7.75}$$
$$b = 2.8$$

$$\frac{(15)(5.6)}{2} =$$

$$\boxed{41.7 \, m^2}$$