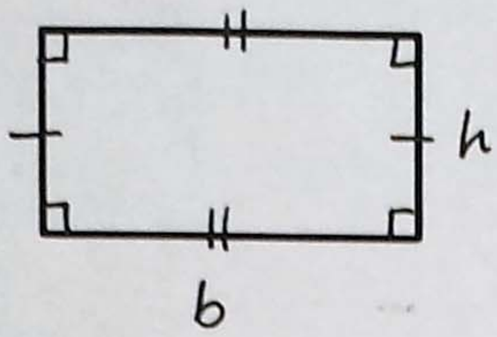
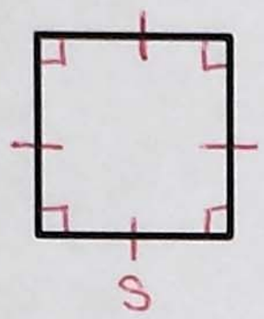
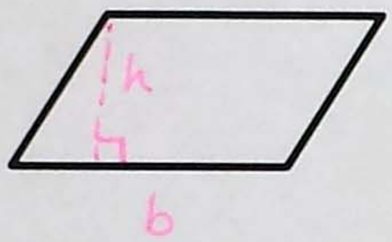
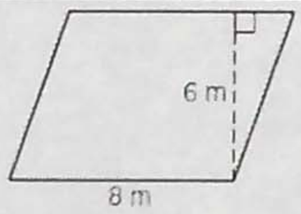
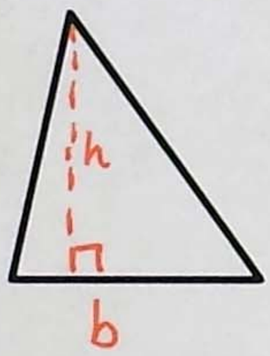
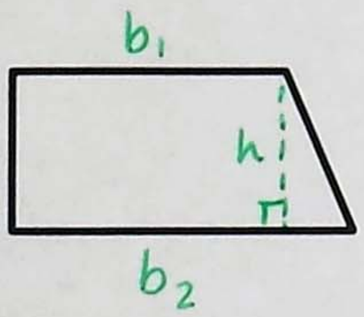
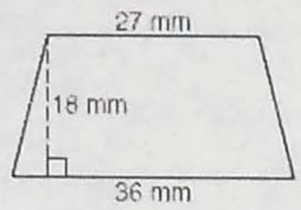
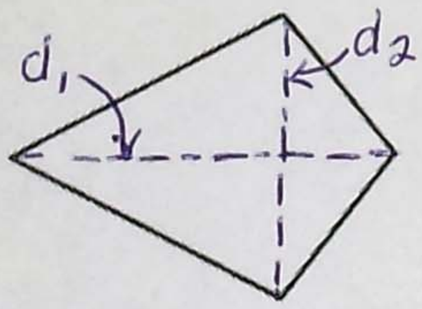
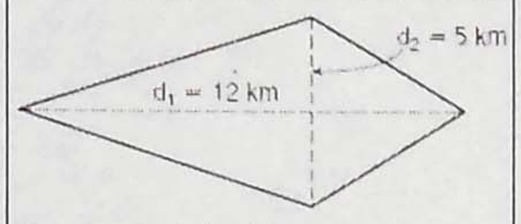
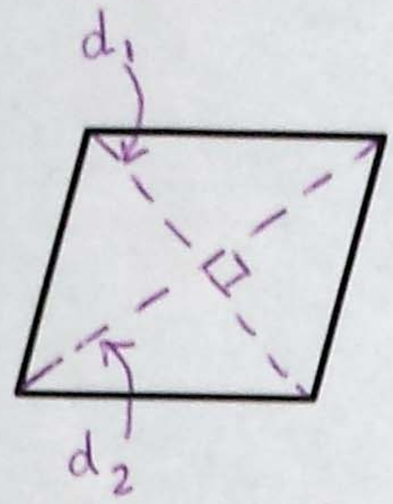
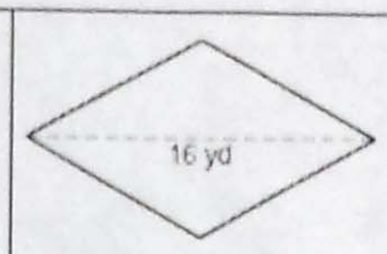
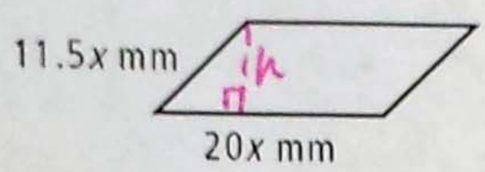
Geometry: 9.1 Notes

Shape	Picture	Area	Example: Find…
Rectangle		$A = b \cdot h$	Find the area of a rectangle with side lengths 6 cm and 12 cm. $A = 6(12)$ $A = 72\ cm^2$
Square		$A = s^2$	Find the side of a square with area 75 ft^2 $75 = s^2$ $\sqrt{75} = s$ $s = 5\sqrt{3}\ ft.$
Parallelogram		$A = b \cdot h$	 the area of the parallelogram $A = 6(8)$ $A = 48\ m^2$
Triangle		$A = \frac{1}{2} b \cdot h$	 the height of the triangle in which $A = 90\ ft^2$ $90 = \frac{6 \cdot h}{2}$ $90 = 3h$ $h = 30 ft$
Trapezoid		$A = \frac{(b_1 + b_2)h}{2}$	 the area of the trapezoid $A = \frac{(27+36)18}{2}$ $A = \frac{(63)(18)}{2}$ $A = 567\ mm^2$
Kite		$A = \frac{1}{2}(d_1)(d_2)$	 the area of the kite $A = \frac{1}{2}(12)(5)$ $A = 30\ km^2$

Rhombus		$A = \frac{1}{2}(d_1)(d_2)$	 d_2 of the rhombus in which A = 72 yd² $72 = \frac{1}{2}(16)(d_2)$ $72 = 8d_2$ $d_2 = 9$ yd.

Additional Examples: Find each measurement.

1. The height of the parallelogram, in which A = 182x^2 mm².



$182 = 20 \cdot h$

$\boxed{h = 9.1 \text{ mm}}$

2. The perimeter of a rectangle in which h = 8 in. and A = 28x in^2.

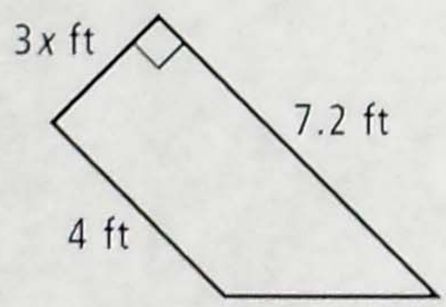
$28 = b(8)$

$b = 3.5$ in

$P = 3.5 + 3.5 + 8 + 8$

$\boxed{P = 23 \text{ in}}$

3. The area of the trapezoid:



$A = \frac{(4+7.2)3}{2}$

$A = \frac{33.6}{2}$

$\boxed{A = 16.8 \text{ ft}^2}$

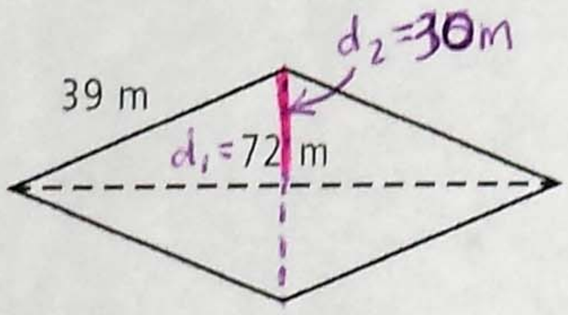
4. The base of the triangle in which h = 8 cm and A = (~~12x + 8~~ 20) cm²

$20 = \frac{1}{2}b(8)$

$20 = 4b$

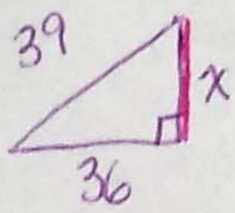
$\boxed{b = 5 \text{cm}}$

5. The area of the rhombus.



$A = \frac{1}{2}(72)(30)$

$\boxed{A = 1080 \text{ m}^2}$



$36^2 + x^2 = 39^2$

$x^2 = 225$

$x = 15$