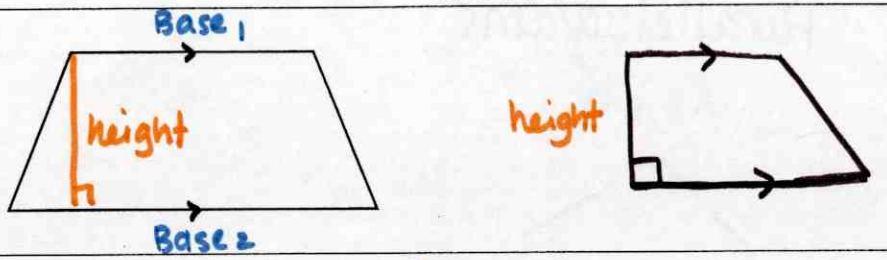
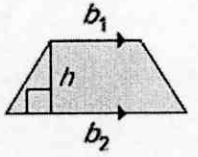
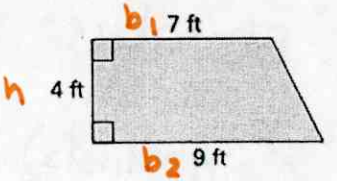
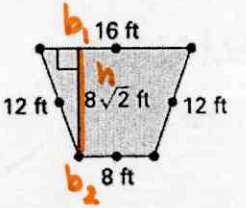
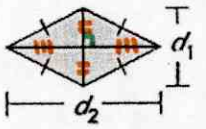
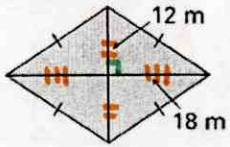
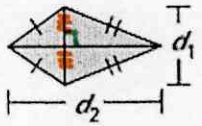
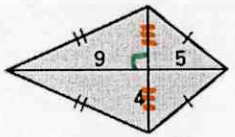
Section 11.2 Date _____

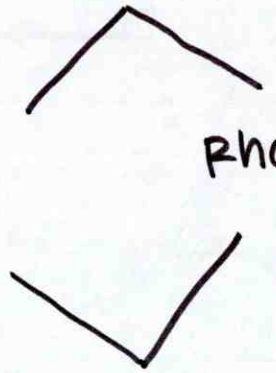
Area of Trapezoids, Rhombuses, and Kites

VOCABULARY	DEFINITION	EXAMPLE
HEIGHT of a TRAPEZOID	The height of a trapezoid is the perpendicular distance between its bases.	
THEOREM 11.4 AREA of a TRAPEZOID	The area of a trapezoid is one half the product of the height and the sum of the lengths of the two bases. $A = \frac{1}{2}h(b_1 + b_2)$	 $A = \frac{h(b_1+b_2)}{2}$  $A = \frac{4(7+9)}{2}$ $A = 32\ ft^2$  $A = \frac{8\sqrt{2}(16+8)}{2}$ $A = 96\sqrt{2}\ ft^2$
THEOREM 11.5 AREA of a RHOMBUS and square	The area of a rhombus is one half the product of its diagonals. $A = \frac{1}{2}d_1(d_2)$	 $A = \frac{d_1(d_2)}{2}$  $d_1 = 2(12)$ $d_2 = 2(18)$ $d_1 = 24$ $d_2 = 36$ $A = \frac{24(36)}{2}$ $A = 432\ m^2$
THEOREM 11.6 AREA of a KITE	The area of a ~~rhombus~~ kite is one half the product of its diagonals. $A = \frac{1}{2}d_1(d_2)$	 $A = \frac{d_1(d_2)}{2}$  $d_1 = 9+5$ $d_2 = 2(4)$ $d_1 = 14$ $d_2 = 8$ $A = \frac{14(8)}{2}$ $A = 56\ u^2$

Quadrilaterals

Parallelograms

$A = bh$



Rectangle

$A = bh$

Rhombus

$A = bh$

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

Square

$A = bh$

$A = s^2$

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

Trapezoids

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

Kites

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

Triangles

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