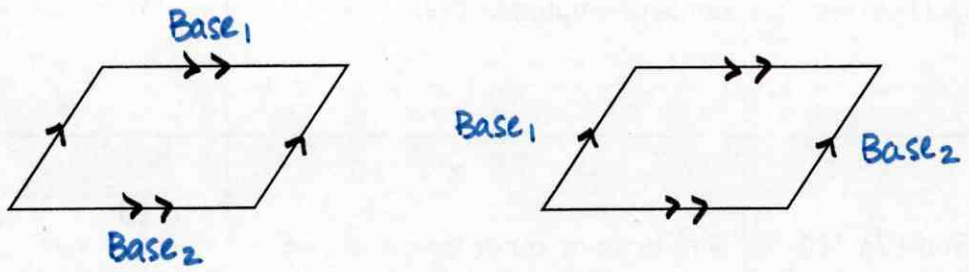
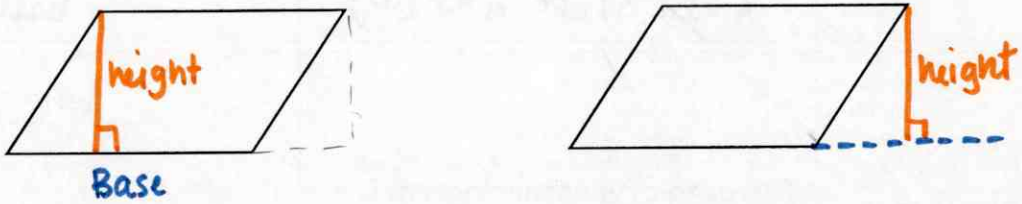
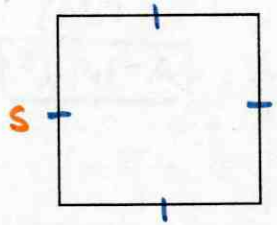
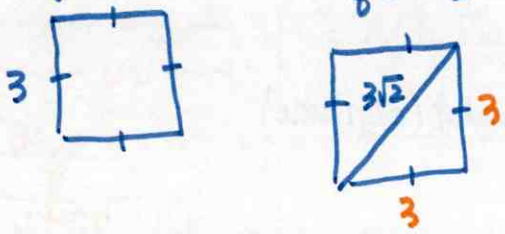
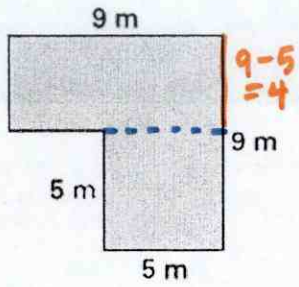
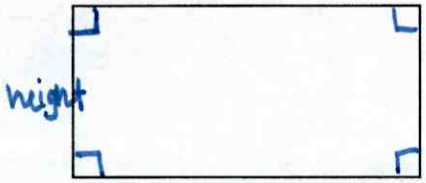
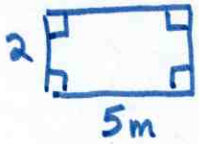
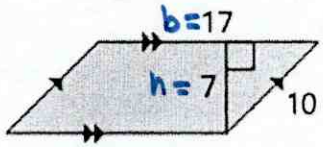
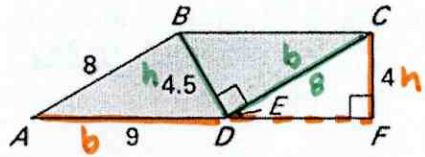
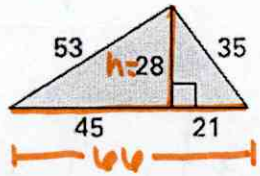
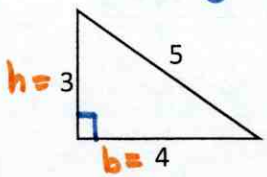
Section 11.1 Date _____

Area of Triangles and Parallelograms

VOCABULARY	DEFINITION	EXAMPLE
BASES of a PARALLELOGRAM	The bases of a parallelogram are either pair of parallel sides.	
HEIGHT of a PARALLELOGRAM	The shortest distance between the two bases is the height. The height must be perpendicular to the base.	
POSTULATE 24 AREA of a SQUARE POSTULATE	The area of a square is the square of the lengths of its sides. s=side length $A=s^2$	 $s=8$ $A=8^2$ $A=64 \text{ units}^2$
POSTULATE 25 AREA CONGRUENCE POSTULATE	If two polygons are congruent then they have the same area.	 $A_1=3^2$ $A_1=9$ $A_2=3^2$ $A_2=9$

POSTULATE 26 AREA ADDITION POSTUALTE	The area of a region is the **sum** of the areas of its nonoverlapping parts.	 9−5 = 4 A(square) + A(rectangle) 5^2 b(h) 5^2 9(4) 25 + 36 $A = 61\ m^2$
THEOREM 11.1 AREA of a RECTANGLE	The area of a rectangle is the product of its **base** and **height**. $A = b(h)$ or $A = \ell(w)$	  $A = 2(5)$ $A = 10m^2$
THEOREM 11.2 AREA of a PARALLELOGRAM	The area of a parallelogram is the product of a **base** and its corresponding **height**. * must be ⊥ to the base $A = bh$	 $A = b(h)$ $= 17(7)$ $A = 119\ u^2$  $A = 9(4)$ $A = 36u^2$ $A = 8(4.5)$ $A = 36\ u^2$
THEOREM 11.3 AREA of a TRIANGLE	The area of a triangle is **one half** the product of its **base** and its corresponding **height (altitude)**. $A = \frac{bh}{2}$	 $A = \frac{66(28)}{2}$ $A = 924\ u^2$ * Right Δs: The base and height are always the 2 legs  $A = \frac{4(3)}{2}$ $A = 6\ u^2$