MrF

APPENDIX A
GRADE 10 ESSENTIAL
UNIT D – 2-D GEOMETRY

GEOMETRIC FORMULAE

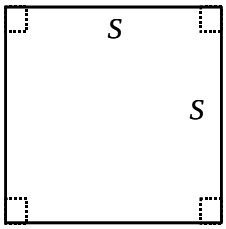
Shape	Diagram	Formulae

FLAT OBJECTS
2 DIMENSIONAL

Square

(all four sides same length, 90°corners)

(a rectangle with all sides same length)

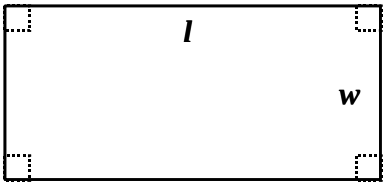


Perimeter, P:
P = s + s + s + s = 4*s

Area, A:
A = s * s = s^2

Rectangle

(Four sides, square corners)



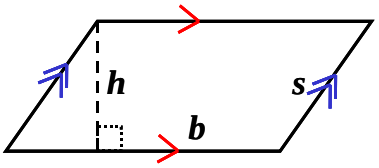
Perimeter, P:
P = *l* + *w* + *l* + *w* = 2*l* + 2*w*

Area, A:
A = *l* * *w*

Parallelogram and Rhombus

(a leaning rectangle or leaning square)

Note
b is always ⊥ to h



Perimeter; P:
P = 2b + 2s

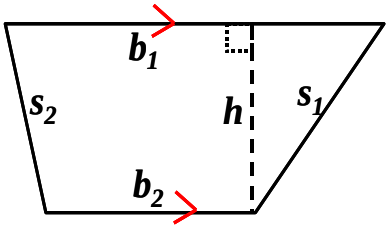
Area; A:
A = b * h

Note
b is always ⊥ to h

Trapezoid

(Four sides, only two sides parallel { ‖ })

Note
b is always ⊥ to h



Perimeter; P:
P = b_1 + s_1 + b_2 + s_2

Area; A:
A = $b_{average}$*h

$$= \frac{1}{2}(b_1+b_2)*h$$

Note
b is always ⊥ to h

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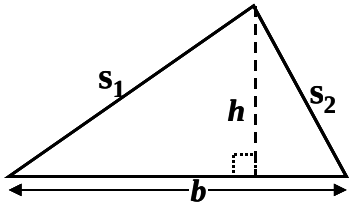
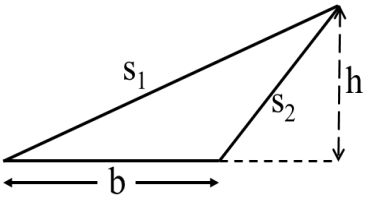
Triangle

(three sides)

(half a parallelogram or half a rectangle)



Note
b is always ⊥ to h [perpendicular]



Perimeter; P:

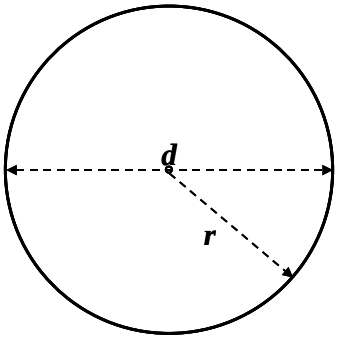
$$P = s_1 + s_2 + b$$

Area; A:

$$A = \frac{1}{2} * b * h$$

Note
b is always ⊥ to h

Circle



Circumference; C:

$$C = \pi d = 2\pi r$$

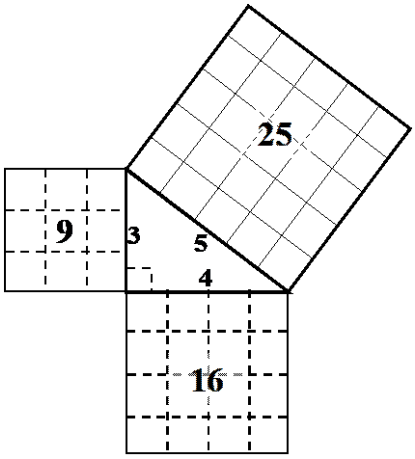
Area; A

$$A = \pi r^2$$

Pythagoras

$$c^2 = a^2 + b^2$$

*where **c** is the length of the hypotenuse and **a** and **b** are the lengths of the shorter two sides*



$$5^2 = 3^2 + 4^2$$
$$25 = 9 + 16$$
or
$$25 - 9 = 16$$

Add your own extra formulae below.