

# Foundations of Mathematics 20:

## Final Exam Formula Sheet

### Sine Law:

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

### Polygons:

Total (sum) of all interior angles =  $180^\circ (n - 2)$

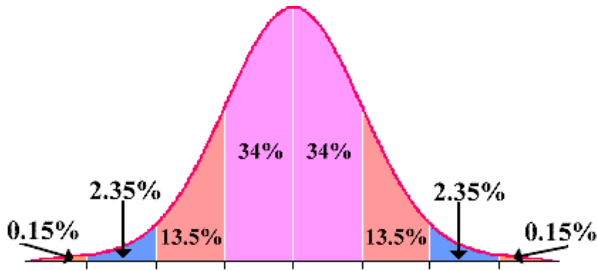
Measure of one interior angles =  $\frac{180^\circ (n-2)}{n}$

Total of all exterior angles =  $360^\circ$

### Stats:

Standard Deviation ( $\sigma$ ) =  $\sqrt{\frac{\sum(x-\bar{x})^2}{n}}$

$$Z = \frac{x-\mu}{\sigma} \quad \mu = \bar{x} \quad \bar{x} = \frac{\sum x}{n}$$



X	X <sup>2</sup>	X <sup>3</sup>
1	1	1
2	4	8
3	9	27
4	16	64
5	25	125
6	36	216
7	49	343
8	64	512
9	81	729
10	100	1000
11	121	1331
12	144	1728
13	169	2197
14	196	2744
15	225	3375

### Cosine Law:

$$a^2 = b^2 + c^2 - 2bc \cos A \quad \text{or} \quad \cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

### Quadratics:

Vertex graphing form:  $y = a(x - h)^2 + k$

Standard form:  $y = ax^2 + bx + c$

Axis of symmetry:  $x = -\frac{b}{2a}$

Quadratic formula:  $X = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

### Conversions :

1 kg = 2.2 lbs

1 kg = 1000g

1 m = 100 cm = 1000mm

1 h = 60 min = 3600 sec

		X
$\sqrt{4}$	$\sqrt[3]{8}$	2
$\sqrt{9}$	$\sqrt[3]{27}$	3
$\sqrt{16}$	$\sqrt[3]{64}$	4
$\sqrt{25}$	$\sqrt[3]{125}$	5
$\sqrt{36}$	$\sqrt[3]{216}$	6
$\sqrt{49}$	$\sqrt[3]{343}$	7
$\sqrt{64}$	$\sqrt[3]{512}$	8
$\sqrt{81}$	$\sqrt[3]{729}$	9
$\sqrt{100}$	$\sqrt[3]{1000}$	10
$\sqrt{121}$	$\sqrt[3]{1331}$	11
$\sqrt{144}$	$\sqrt[3]{1728}$	12
$\sqrt{169}$	$\sqrt[3]{2197}$	13
$\sqrt{196}$	$\sqrt[3]{2744}$	14
$\sqrt{225}$	$\sqrt[3]{3375}$	15