Government of **Western Australia**
Curriculum Council

WACE
Western Australian Certificate of Education

Mathematics: Units 2A and 2B
Formula sheet

Number and algebra: Functions and graphs

$y = mx + c$, where m = gradient; $c = y$ - intercept

Space and measurement: Measurement

In a right triangle: $\sin\theta = \dfrac{\text{opposite}}{\text{hypotenuse}}$ $\cos\theta = \dfrac{\text{adjacent}}{\text{hypotenuse}}$ $\tan\theta = \dfrac{\text{opposite}}{\text{adjacent}}$

Pythagoras' Theorem:
In a right triangle ABC, where a, b are the short sides; and c is the hypotenuse, $c^2 = a^2 + b^2$

Circle: Circumference, $C = 2\pi r = \pi D$
Area = πr^2

Triangle: Area = $\frac{1}{2} \times$ base $\times$ perpendicular height

Parallelogram: Area = base $\times$ perpendicular height

Trapezium: Area = $\frac{1}{2}(a+b) \times$ height, where a and b are the lengths of the parallel sides

Prism: Volume = Area of base $\times$ height

Cylinder: Total surface area = $2\pi r h + 2\pi r^2$
Volume = $\pi r^2 \times h$

Pyramid: Volume = $\frac{1}{3} \times$ area of base $\times$ height

Cone: Total surface area = $\pi r s + \pi r^2$, s is the slant height
Volume = $\frac{1}{3} \times \pi r^2 \times h$

Sphere: Total surface area = $4\pi r^2$
Volume = $\frac{4}{3}\pi r^3$

Space and measurement: Coordinate geometry

Gradient of line, m, through the points (x_1, y_1) and (x_2, y_2) is given by $m = \dfrac{y_2 - y_1}{x_2 - x_1}$.

Distance, d, between the points (x_1, y_1) and (x_2, y_2) is given by $d = \sqrt{(y_2 - y_1)^2 + (x_2 - x_1)^2}$.

Note: Any additional formulas identified by the examination panel as necessary will be included in the body of the particular question.

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