

UNIT 13 Graphs

Mental Tests

Test 13.1 (no calculator)

- What is the gradient of the line that passes through the points
 - (0, 0) and (1, 2) (2)
 - (2, 0) and (4, 1) $\left(\frac{1}{2}\right)$
 - (1, 0) and (0, 1) (-1)
- What is the equation of the straight line that cuts the y-axis at $y = 2$ and has gradient 3? $(y = 2 + 3x)$
- What is the equation of the straight line that cuts the y-axis at $y = -1$ and has gradient -2 ? $(y = -1 - 2x)$
- The equation of a straight line is $y = 4 - x$.
What is
 - the gradient (-1)
 - the y-intercept? (4)
- A horizontal line passes through the point (3, 2). What is its equation? $(y = 2)$
- A vertical line passes through the point (-1, 3). What is its equation? $(x = -1)$
- Which of these graphs cuts the line $y = x$?
A: $y = -\frac{2}{x}$ B: $y = 2 + x^2$ C: $y = x^2 - 1$ (C)

Test 13.2 (no calculator)

- What is the gradient of the line that passes through the points
 - (0, 0) and (2, 1) $\left(\frac{1}{2}\right)$
 - (1, 0) and (3, 4) (2)
 - (2, 0) and (0, 1) $\left(-\frac{1}{2}\right)$
- What is the equation of the straight line that cuts the y-axis at $y = 3$ and has gradient -1 ? $(y = 3 - x)$
- What is the equation of the straight line that cuts the y-axis at $y = -2$ and has gradient $\frac{1}{2}$? $\left(y = -2 + \frac{1}{2}x\right)$
- The equation of a straight line is $y = -1 - 2x$.
What is
 - the gradient (-2)
 - the y-intercept? (-1)
- A horizontal line passes through the point (4, -1). What is its equation? $(y = -1)$
- A vertical line passes through the point (2, 3). What is its equation? $(x = 2)$
- Which of these graphs cuts the line $y = -x$?
A: $y = 2 - x$ B: $y = \frac{1}{x}$ C: $1 - x^2$ (C)