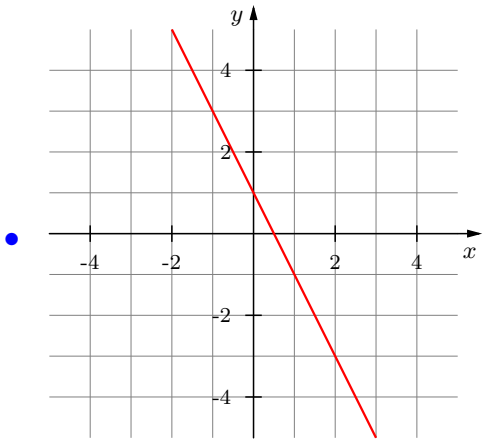
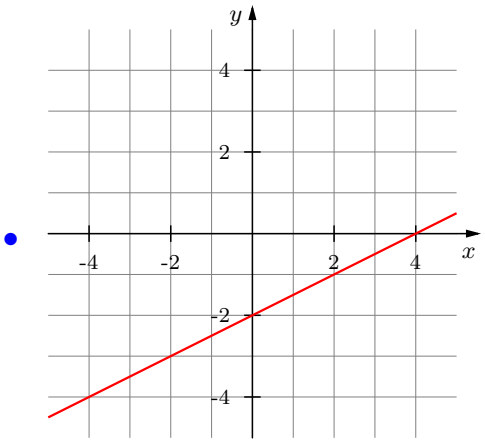
Basic Coordinate Geometry

i. **State the gradient (slope), x-intercept and y-intercept of the following straight lines:**





- $y = 3x - 2$
- $y - 3 = {}^{1}/_{4}x$
- $y + 5 = {}^{1}/_{2}x$

- $2y = 3x + 10$
- $3y + 5 = 2x + 5y$
- $2y + 4x + 6 = 0$

ii. **Find the mid-point between the following pairs of coordinates:**

- $(0, 0)$ and $(2, 2)$
- $(1, 2)$ and $(3, 4)$
- $(0, 1)$ and $(4, 3)$
- $(5, 4)$ and $(7, 2)$

- $(2, -1)$ and $(-3, -5)$
- $(-8, -10)$ and $(4, 2)$
- $(-{}^{1}/_{2}, -3)$ and $(5, {}^{3}/_{2})$
- $({}^{7}/_{2}, 6)$ and $(9, {}^{3}/_{4})$

iii. **Find the distance between the following pairs of coordinates (leave in surd form):**

- $(1, 1)$ and $(2, 3)$
- $(2, 1)$ and $(4, 5)$
- $(10, 9)$ and $(7, 5)$
- $(0, 1)$ and $(0, 7)$

- $(-1, 5)$ and $(0, -3)$
- $(-2, -6)$ and $(-5, -14)$
- $(6, -{}^{1}/_{3})$ and $(-3, -8)$
- $({}^{1}/_{2}, 4)$ and $(5, -2)$

iv. **Below are the equations of 8 straight lines. State two lines which are parallel to each other and two which are perpendicular to each other:**

y=10x+3 10y=-x y=-5x+9 4y-x-5=0 4y=8x+9

y=2x-5 5y-3x-8=0 y=-½x+8

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