Year 10 Higher Questions – Straight Line Graphs
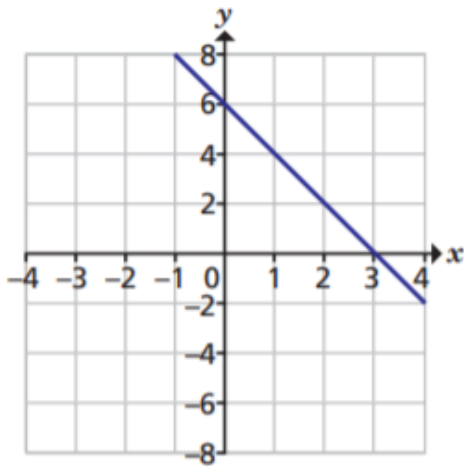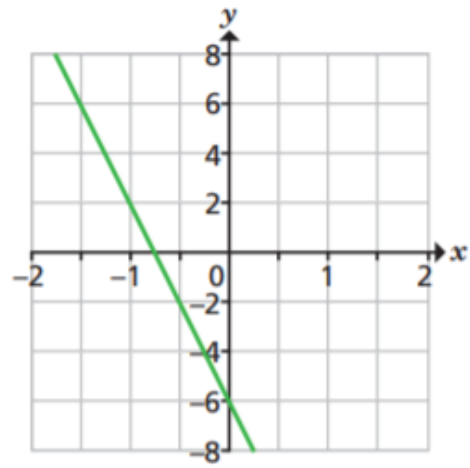
1.

Work out the equations of each line.
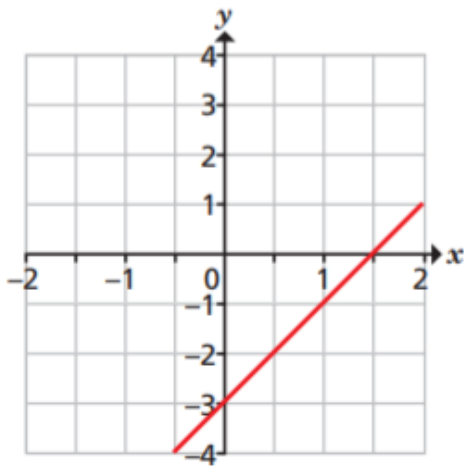
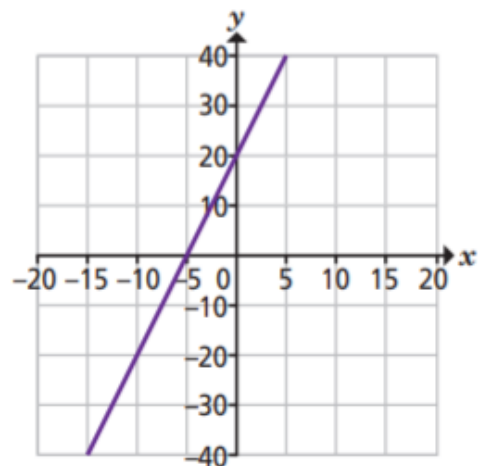**a)**

_____

b)

_____

c)

_____

d)

_____

2.

Write the negative reciprocal of each number.

a) $\dfrac{5}{3}$

b) $-\dfrac{2}{5}$
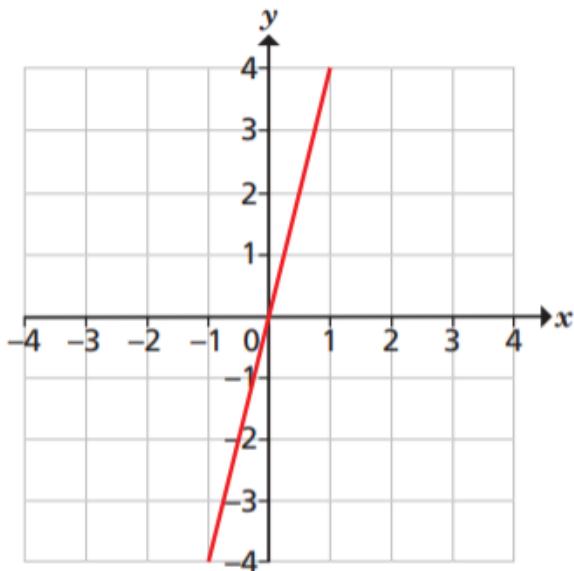
c) $\dfrac{4}{7}$

d) 13

e) $-\dfrac{1}{14}$

f) −0.8

3. The graph of $y = 4x$ is shown on the grid.

a) What is the gradient of this line?

b) What is the gradient of a line perpendicular to this one?

c) On the grid, draw the line that is perpendicular to $y = 4x$ and that passes through the origin. Label this line M.

What is the equation of line M?

_____

d) On the same grid, draw the line that is perpendicular to $y = 4x$ and passes through the point (0, –2). Label this line N.

What is the equation of line N? _____

e) Are lines M and N perpendicular? _____

Explain your answer.

_____

4.

Write the equation of a line that is perpendicular to $y = 14x + 1$

_____

5.

Write the equation of a line that is perpendicular to $y = 8 - 3x$ and that passes through the point (0, 15).

_____

6.

Two straight lines are given by these equations.

$$L_1 \quad y - 6x = 15$$

$$L_2 \quad 6y = 3 - x$$

Show that lines L_1 and L_2 are perpendicular.

7.

Line A passes through the points (2, 1) and (5, 10)
Find the equation of the line parallel to A that passes through (2,5)

8.

Line A passes through the points (1, 5) and (5, 7)
Find the equation of the line perpendicular to A that passes through (-1,7)