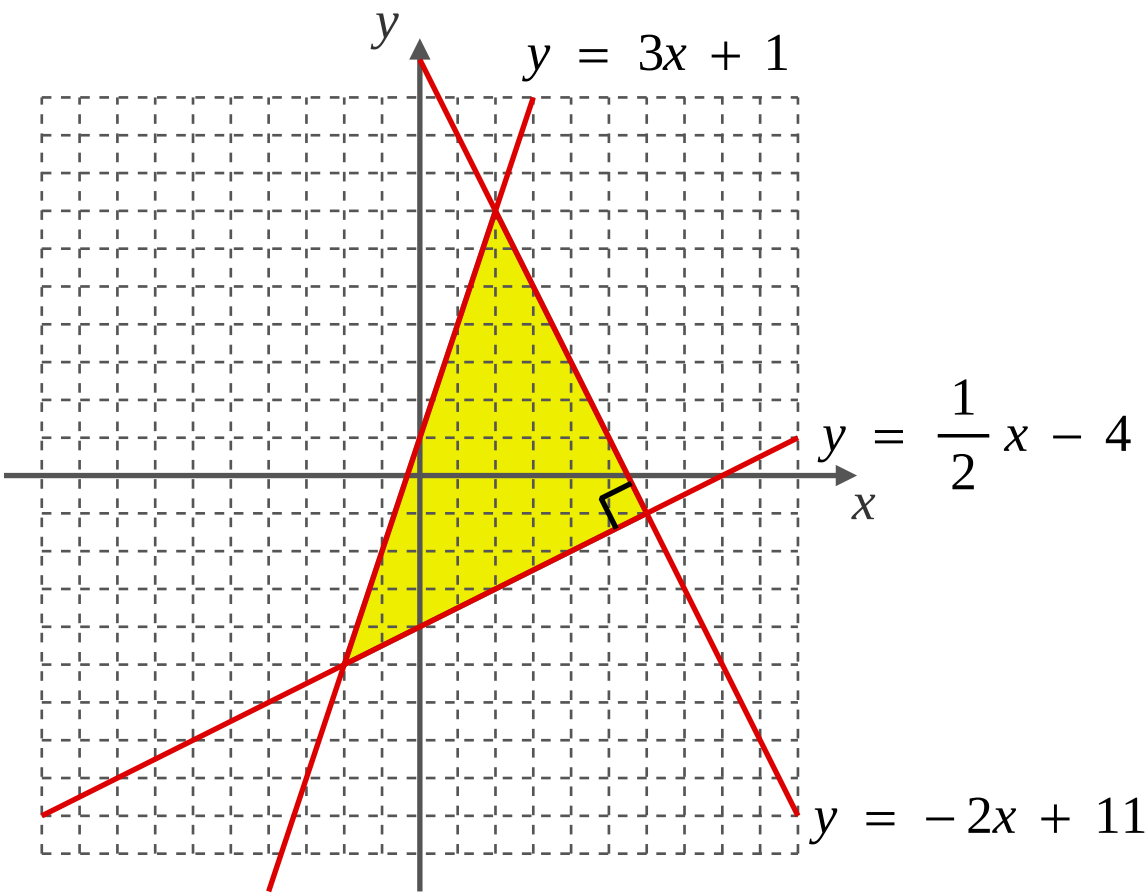
1.4 Answers

A-Level Pure Mathematics, Year 1
Additional Mathematics
GCSE
Coordinate Geometry

1.4.1 Solutions to 1.2 "Together" Exercise

Answer 1



[5 marks]

Answer 2

$y = mx + c$

$1 = 2 \times 5 + c \Rightarrow c = -9 \Rightarrow$ The line is thus, $y = 2x - 9$

[3 marks]

Answer 3

$$m = \frac{\Delta Y}{\Delta X} = \frac{20 - 11}{5 - 2} = \frac{9}{3} = 3$$

$y = mx + c$

$11 = 3 \times 2 + c$

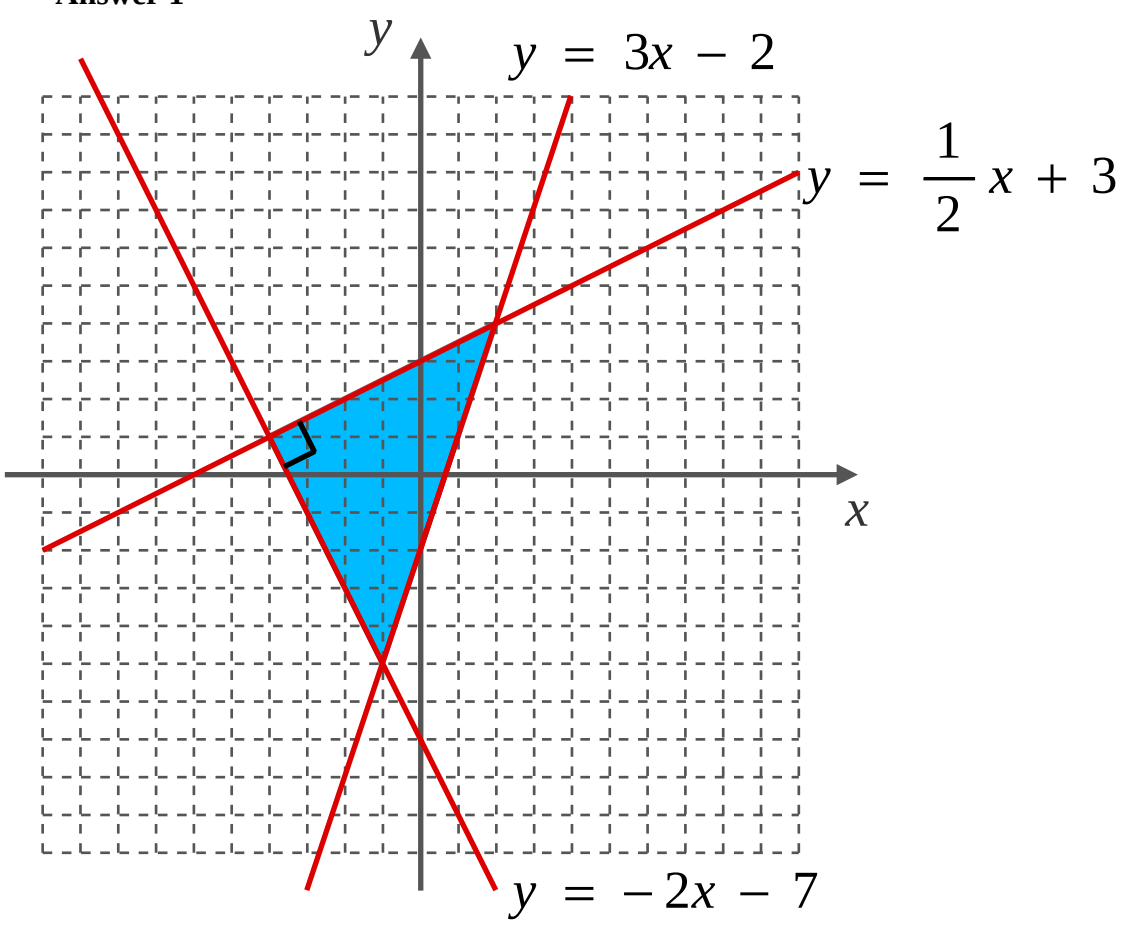
$c = 5$

The line is thus, $y = 3x + 5$

[3 marks]

1.4.2 Solutions to 1.3 Exercise

Answer 1



[5 marks]

Answer 2

$$y = mx + c$$

$$13 = 3 \times 2 + c$$

$$c = 7$$

The line is thus, $y = 3x + 7$

[3 marks]

Answer 3

$$m = \frac{\Delta Y}{\Delta X}$$

$$= \frac{17 - 5}{5 - 2}$$

$$= \frac{12}{3}$$

$$= 4$$

$$y = mx + c$$

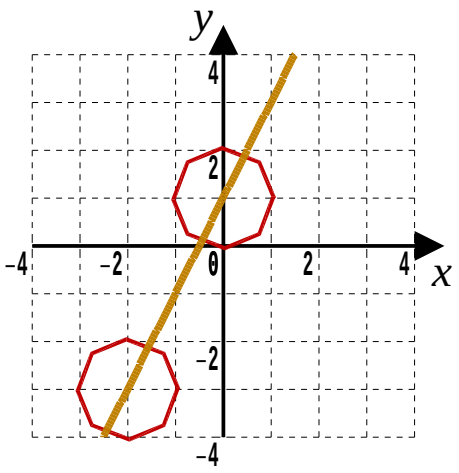
$$5 = 4 \times 2 + c$$

$$c = -3$$

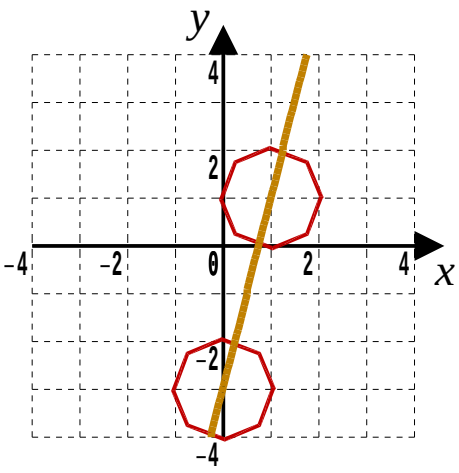
The line is thus, $y = 4x - 3$

[3 marks]

Answer 4

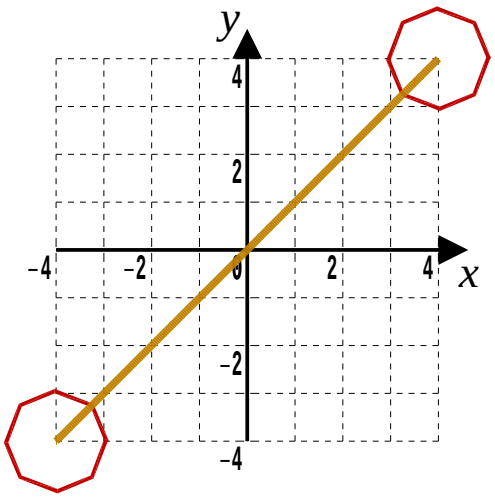


(i) $y = 2x + 1$

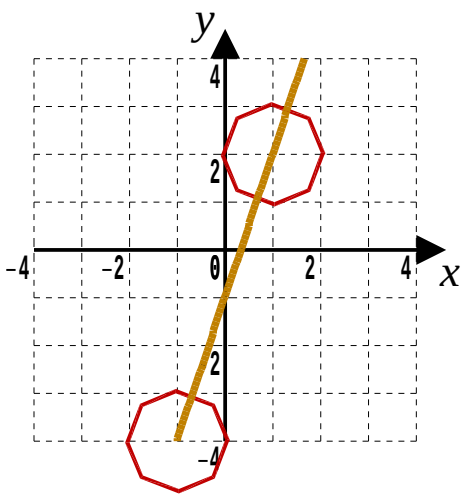


(ii) $y = 4x - 3$

[2, 2 marks]

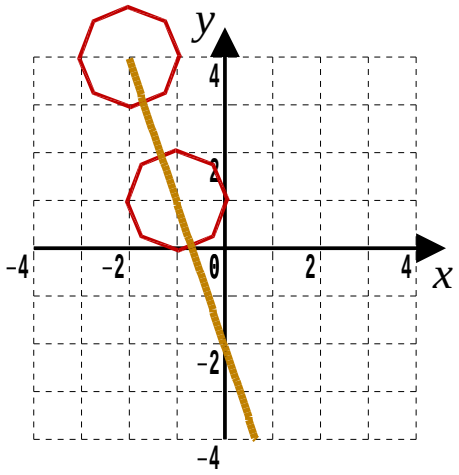


(iii) $y = x$

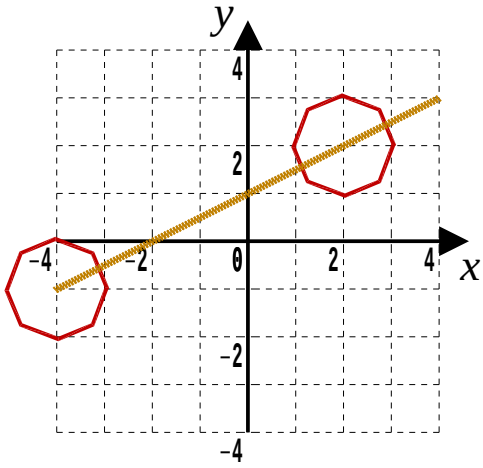


(iv) $y = 3x - 1$

[2, 2 marks]

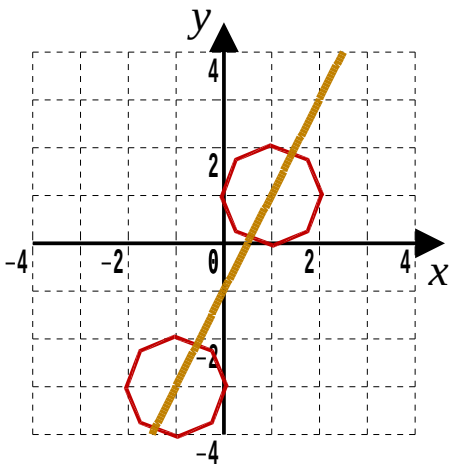


(v) $y = -3x - 2$

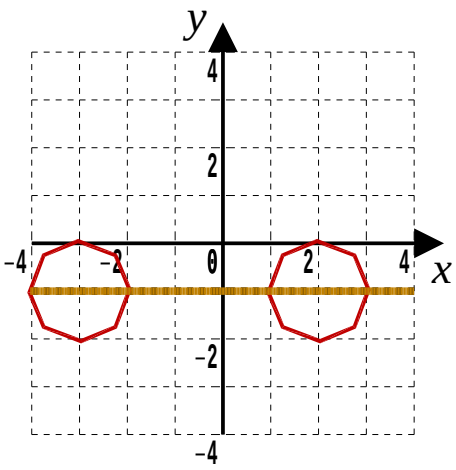


(vi) $y = \frac{1}{2}x + 1$

[2, 2 marks]

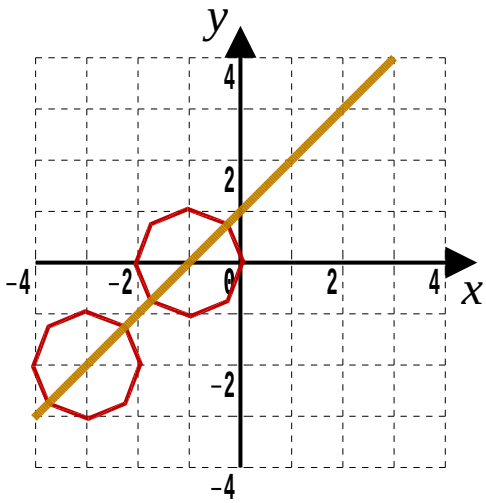


(vii) $y = 2x - 1$

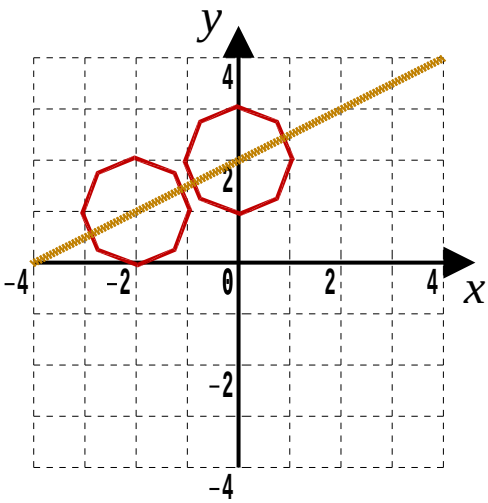


(viii) $y = -1$

[2, 2 marks]



(ix) $y = x + 1$



(x) $y = \frac{1}{2}x + 2$

[2, 2 marks]

Answer 5

(i) $y = 4x$ $y = x + 6$ $y = -2x - 6$

(ii) Area $\Delta A = 18$

(iii) Area $\Delta B = 9$

(iv) Area $\Delta C = 18$

$\therefore$ The area of the enclosed triangle is $6 \times 12 - 45 = 27$

Answer 6

$3\sqrt{10}$

Answer 7

$y = \frac{1}{2}x - 4$

Answer 8

$y = -4x + 17$