Outcome 1 – Identifying the gradient and the y-intercept

Bronze examples…

Examples… $y = mx + c$

Determine the gradient (m) and the y-intercept (c) of the following equations…

$y = 3x - 1$ $m = 3$
$c = -1$

$m = -\dfrac{1}{2}$ $y = -\dfrac{1}{2}x + 9$

$c = 9$

$y = 7 - 4x$ $m = -4$
$c = 7$

Silver examples

Examples… $y = mx + c$

Determine the gradient (m) and the y-intercept (c) of the following equations…

$2y = 8x + 2$ $m = 4$
$c = 1$

$y = 4x + 1$

$m = 3$ **Divide by 2**

$c = -\dfrac{11}{3}$ $3y = 9x - 11$

Divide by 3 $y = 3x - \dfrac{11}{3}$

Gold examples

Examples… $y = mx + c$

Determine the gradient (m) and the y-intercept (c) of the following equations…

Take away 5x

$5x + 3y = 9$

$3y = -5x + 9$

$y = -\dfrac{5}{3}x + 3$ **Divide by 3**

$m = -\dfrac{5}{3}$ $c = 3$

Bronze Questions

Write down the gradient and the y-intercept of the following equations…

1. $y = 2x + 4$ 2. $y = 5x + 8$

3. $y = -3x + 1$ 4. $y = x - 2$

5. $y = \dfrac{1}{4}x + 7$ 6. $y = \dfrac{1}{5}x + 5$

7. $y = 11 + 3x$ 8. $y = 4 - x$

9. $y = 6 - 2x$ 10. $y = 12 - \dfrac{1}{3}x$

Silver Questions

Write down the gradient and the y-intercept of the following equations…

1. $2y = 10x + 4$ 2. $3y = 21x - 3$

3. $5y = -10x + 5$ 4. $6y = 12x - 18$

5. $4y = 2x + 8$ 6. $2y = x + 10$

7. $3y = 15 + 3x$ 8. $8y = 88 - 24x$

9. $3y = 9 - 9x$ 10. $2y = 18 - \dfrac{1}{4}x$

Gold Questions

Write down the gradient and the y-intercept of the following equations…

1. $2y + 8x = 4$ 2. $3y - 21x = 3$

3. $5x + 5y = 20$ 4. $6y - 4x = 18$

5. $4y - 2x = 10$ 6. $3y - 3x = 18$

7. $2y + 3x = 9$ 8. $5x + 4y = 20$

9. $6y + 8x - 4 = 0$ 10. $7x - 5y + 5 = 0$

Bronze Answers

1. $m = 2, c = 4$ 2. $m = 5, c = 8$
3. $m = -3, c = 1$ 4. $m = 1, c = -2$
5. $m = \frac{1}{4}, c = 7$ 6. $m = \frac{1}{5}, c = 5$
7. $m = 3, c = 11$ 8. $m = -1, c = 4$
9. $m = -2, c = 6$ 10. $m = -\frac{1}{3}, c = 12$

Silver Answers

1. $m = 5, c = 2$ 2. $m = 7, c = -1$
3. $m = -2, c = 1$ 4. $m = 2, c = -3$
5. $m = \frac{1}{2}, c = 2$ 6. $m = \frac{1}{2}, c = 5$
7. $m = 1, c = 5$ 8. $m = -3, c = 11$
9. $m = -3, c = 3$ 10. $m = -\frac{1}{8}, c = 9$

Gold Answers

1. $m = -4, c = 2$ 2. $m = 7, c = 1$
3. $m = -1, c = 4$ 4. $m = 2/3, c = 3$
5. $m = 1/2, c = 5/2$ 6. $m = 1, c = 6$
7. $m = -3/2, c = 9/2$ 8. $m = -5/4, c = 5$
9. $m = -4/3, c = 2/3$ 10. $m = 7/5, c = 1$