

## A little bit of maths each day – March 2018 Calendar – Higher Tier – Answers

1 <sup>st</sup>	(a) (3, 1) (b) Translated to (-1, -5) then reflected to (-1, 5)
2 <sup>nd</sup>	$x = 18, y = 9$
3 <sup>rd</sup> /4 <sup>th</sup>	$(\frac{5}{3}, \frac{21}{5})$ (-3, -3)
5 <sup>th</sup>	70 white, 80 black
6 <sup>th</sup>	40% reduction
7 <sup>th</sup>	$-8 < x < 3$
8 <sup>th</sup>	(a) 77.937 (b) 891.8
9 <sup>th</sup>	(a) $-\frac{3}{2}, 3$ (b) $u_3 = 171$ $u_4 = 57970$
10 <sup>th</sup> /11 <sup>th</sup>	(a) Pay £3 before you travel anywhere (standing charge) (b) Gradient 2 = £2 per mile travelled (c) $y = 2x + 3$
12 <sup>th</sup>	(a) $6x^2 - 17x - 14$ (b) -10 and 8
14 <sup>th</sup>	208cm <sup>2</sup>
15 <sup>th</sup>	$5y - 2x + 16 = 0$ or $2x - 5y - 16 = 0$
16 <sup>th</sup>	42°
17 <sup>th</sup> /18 <sup>th</sup>	(b) 20
19 <sup>th</sup>	$m = \frac{9n+ab}{a-n}$ or $m = \frac{-9n-ab}{n-a}$
20 <sup>th</sup>	2 mph
21 <sup>st</sup>	$9\sqrt{3}$
22 <sup>nd</sup>	(a) (5, 2) (b) (8, 6) (c) (8, 1) (d) (-12, 2)
23 <sup>rd</sup>	(a) $2^3 \times 3^2 \times 5$ (b) $2^2 \times 3 \times 5 \times 7$ (c) 60 (d) 2520
24 <sup>th</sup> /25 <sup>th</sup>	$\overrightarrow{PR} = \overrightarrow{VT} = \mathbf{a} + \mathbf{c}$
26 <sup>th</sup>	7.25%
27 <sup>th</sup>	$\frac{562}{495}$
28 <sup>th</sup>	£718.80
29 <sup>th</sup>	(a) 0.0205 – 0.0215 (b) 5000
30 <sup>th</sup>	(a) 1 (b) 625 (c) $\frac{243}{32}$
31 <sup>st</sup> /1 <sup>st</sup> April	(a) 17, 31, 57 (c) $a = 6, b = 9$