



THIRD SPACE
LEARNING

Year 9

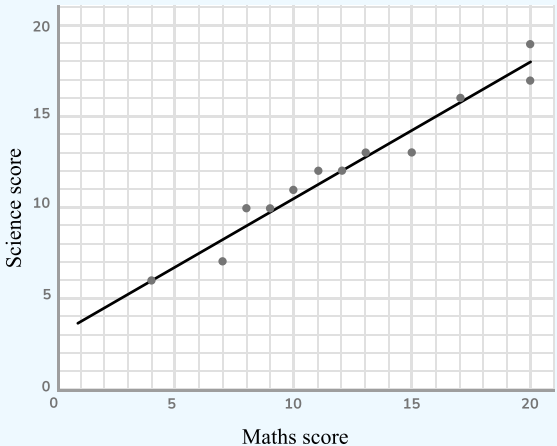
Maths Test

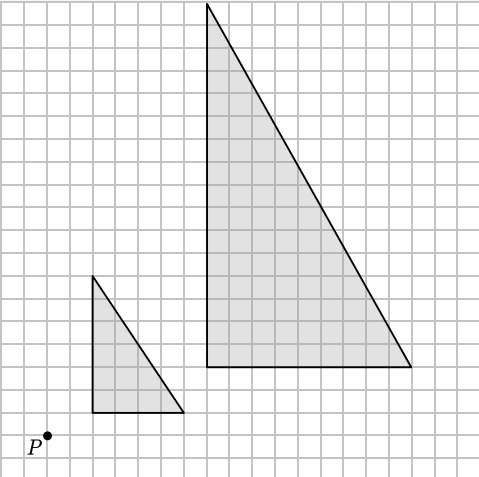
Mark Scheme

KS3 Maths

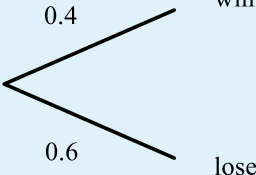
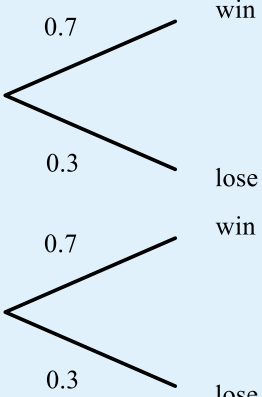
Mark scheme and grade boundaries

Mark	Old National Curriculum Level	New GCSE grade
0 - 8	4	1
9 - 20	5	2
21 - 34	6	3
35 - 43	7	4
44 - 50	8	5

Question	Calculation	Answer	Notes
Q1a		Positive	Accept strong positive
Q1b	 <p>Maths score</p>		A reasonable line with roughly even number of points above/below line
Q2a		23 or 29	Either value
Q2b		8	M1 At least 6 factors of both 24 and 56 correct or at least one correct prime factorisation
Q3	$\frac{1}{2} \times 3 \times 4 \times 8 = 48\text{cm}^3$	48cm^3	M1 Area of triangle = 6cm^2 seen or implied M1 <i>ft</i> Their area $\times 8$ A1 correct answer with correct units
Q4	$20 \div 5 \times 2 = 8$	8	M1 $20 \div 5 = 4$
Q5a		multiply p by itself	
Q5b i	$21 + 3 = 24$	24	

Question	Calculation	Answer	Notes
Q5b ii	$21 \times 2 = 42$	42	
Q6a	$\frac{16}{5} = 3.2, 3\frac{1}{4} = 3.25$	$<$	
Q6b	$\frac{4}{7}$ of 28 = 16, $2^4 = 16$	$=$	
Q7		$x = 52^\circ$ $y = 71^\circ$ $z = 57^\circ$	M1 Vertically opposite angles are equal or Alternate angles are equal or Angles in a triangle add up to 180° A1 for each correct angle with a correct reason
Q8	$v = 2 + 1 \times 8 = 10$ $10^2 = 2^2 + 2 \times 1 \times s$ $100 = 4 + 2s$ $96 = 2s$	$s = 48$	M1 $v = 10$
Q9			M1 An enlargement of scale factor 3 A1 Fully correct enlargement from the centre

Question	Calculation	Answer	Notes
Q10a		$5(3x - 4)$	
Q10b		$y(2y + 7)$	
Q11	$\$14.50 + \$4.50 = \$19$ $\$19 \div 1.19 = \pounds 15.97$ $\pounds 12.50 + \pounds 4.20 = \pounds 16.70$ $\pounds 16.70 \times 1.19 = \19.87	less	M1 \$19 or £16.70 seen with attempt to convert currency by multiplying/dividing by 1.19
Q12a i		stationary	
Q12a ii		travelling towards home	
Q12b	$34 \div 2 = 17$	17km/h	M1 34 miles in 2 hours oe seen
Q13	$\frac{1.68 - 1.50}{1.50} \times 100 = 12\%$	12%	M1 1.68 – 1.50 or 0.18 seen
Q14a	$\text{Area} = \frac{1}{2}(x + x + 6) \times 40$ $= 20(2x + 6)$ $= 40x + 120$ Therefore $40x + 20 < 1000$		M1 Attempt to use area of a trapezium $= \frac{1}{2}(a + b)h$ M1 Reach $40x + 120$ through correct steps
Q14b	$40x < 880$ $x < 22$	$x < 22$	M1 subtracting 120 or $40x < 880$ seen

Question	Calculation	Answer	Notes
Q15a	$\frac{0 \times 3 + 1 \times 8 + 2 \times 3 + 3 \times 2}{3 + 8 + 3 + 2} = \frac{20}{16} = 1.25$	1.25	M1 Multiplying number of siblings by frequencies or 20 seen
Q15b	$24 \times 1.75 = 42$ $42 + 20 = 62$ $24 + 16 = 40$ $62 \div 40 = 1.55$	1.55	M1 $24 \times 1.75 = 42$ M1 62 or 40 seen
Q16a	$1 - 0.4 = 0.6$ $1 - 0.7 = 0.3$	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Chess</p>  </div> <div style="text-align: center;"> <p>Scrabble</p>  </div> </div>	M1 0.6 or 0.3, 0.7 and 0.3 seen in correct place
Q16b	$0.4 \times 0.7 = 0.28$	0.28	
Q17a	$\frac{-2 + 3}{2} = 0.5, \frac{5 + 17}{2} = 11$	(0.5, 11)	M1 x or y coordinate correct

Question	Calculation	Answer	Notes
Q17b	$\sqrt{(3 - -2)^2 + (17 - 5)^2}$ $= \sqrt{5^2 + 12^2}$ $= \sqrt{169} = 13$	13	M1 5 and 12 identified or attempt to use Pythagoras theorem
Q18a	$\frac{2.1 \times 10^2}{7 \times 10^0} = 30$	$\times 30$	
Q18b	$1.89 \times 10^5 \times 30 = 5.67 \times 10^6$	5.67×10^6 5670000	

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