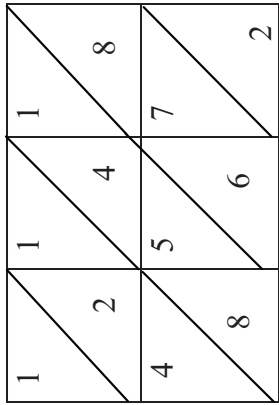
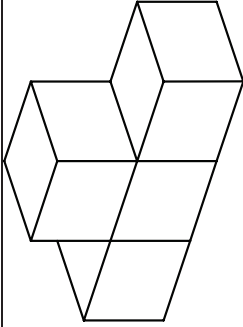


No	Working	Answer	Mark	Notes
1		Correct shape	2	B2 B1 for any 2 sides correct, or a correct enlargement scale factor $\neq 1$ or 2.
2		11 13 16 8 21	2	B2 all correct (B1 for 2 correct) sign
(b)		$\frac{31}{80}$	1	B1 oe
3		$2p+3q$	2	B2 for $2p+3q$ (accept $2 \times p$ etc) (B1 for $2p$ or $3q$ or $2p3q$ )
(b)		$2y^2$	1	B1 accept $2 \times y^2$ or $2 \times y \times y$
(c)		$3c+4d$	2	B2 for $3c+4d$ (accept $3 \times c$ etc) (B1 for $3c$ or $4d$ or $3c4d$ )
(d)		$8pq$	1	B1 accept in any order but must not include $\times$
4		60 eg top triangle is equilateral	2	B1 cao B1 for reason
(b)		150	2	M1 $\frac{(180 - "60")}{2} + 90$ A1 ft from (a)(i) if $x < 90^\circ$ SC: B1 for answer from "60" + 90 if $x < 90^\circ$

No	Working	Answer	Mark	Notes
5	(a) $4 \times 3 - 2 \times 1$ $12 - 2$	10	3	M1 for $3 \times 4 (=12)$ or $1 \times 2$ or attempt to divide diagram up into rectangles M1 "12" – "2" A1 cao
	(b)(i) $\frac{10}{100} \times 680$ or $680 \div 10$ $680 + 68$	748	5	M1 $\frac{10}{100} \times 680$ or $680 \div 10$ or 68 seen M1 (dep) 680 + "68" (or M2 for $680 \times 1.10$ ) A1 cao
	(ii) "748" $\div 50$ or 14.96	15		M1 for "748" $\div 50$ or 14.96; accept "748" rounded up or down to next 50 followed by $\div 50$ A1 ft from (b)(i) rounded up SC B1 for 680 (seen) leading to 14
6	(a) $2 \times 5 + 5 \times -3 = 10 - 15 =$	-5	2	M1 substitute e.g $2 \times 5$ and $5 \times -3$ or 10 and -15 A1 cao
	(b) $5 \times 4^2 - 7$ $5 \times 16 - 7$	73	3	M1 substitution e.g $5 \times 4^2 - 7$ ; do not accept $54^2 - 7$ M1 $5 \times 16 - 7$ or $5 \times 4 \times 4 - 7$ or $80 - 7$ (NB $4^2$ as $4 \times 4$ ) A1 cao

No	Working	Answer	Mark	Notes
7	$\begin{array}{r} 679 \\ 28 \\ \hline 5432 \\ 13580 \\ \hline 19012 \end{array}$ <p style="text-align: center;">or</p> $\begin{array}{r} 28 \\ 679 \\ \hline 252 \\ 1960 \\ \hline 16800 \\ 19012 \end{array}$ <p style="text-align: center;">or</p> 	190.12	3	M1 for an attempt to multiply the units and tens, or correct partitioning M1 complete correct method (condone one arithmetic error) A1 for 190.12 cao OR M1 for putting the numbers in a grid M1 for multiplying out and addition (condone one error) A1 answer shown with point OR M1 for correct partitioning M1 $679 \times 20$ and $679 \times 8$ calculated oe (condone one error) A1 cao
8	<p>(a) 0 1 2</p> <p>(b) Points plotted</p> <p>(c) positive</p> <p>(d) Line of best fit</p> <p>approx 1.65</p>	<p>(a) 1</p> <p>(b) 1</p> <p>(c) 1</p> <p>(d) 1</p>	<p>(a) B1 <math>\pm 1</math> full (2mm) square</p> <p>(b) B1 cao</p> <p>(c) B1 must pass through (42.5, 1.45), (42.5, 1.55) AND (67.5, 1.75), (67.5, 1.85)</p> <p>(d) B1 ft from single line segment with positive gradient <math>\pm 1</math> full (2mm) square</p>	

No	Working	Answer	Mark	Notes
9				
(a)	eg $50 \times \frac{2000}{500}$	200	2	M1 $2000 \div 500$ or 4 seen A1 cao
(b)	eg $400 \times \frac{750}{500}$	600	2	M1 $750 \div 500$ or 1.5 seen or $400 + 200$ A1 cao
10		$C = 10(n + 3)$	3	B3 for $C = 10(n + 3)$ or such as $C = (n + 3) \times 10$ (B2 for correct RHS or $C = n + 3 \times 10$ , $C = 10n + 3$ etc B1 for $C =$ some other linear expression in $n$ or $n + 3 \times 10$ , $10n + 3$ etc) NB: $C = n$ scores no marks
11		$p(p+6)$	2	B2 for $p(p+6)$ or $p \times (p+6)$ (B1 for $p(ap+b)$ where $a, b$ are numbers or $p+6$ seen on it's own, or part of an expression)
(b)	$x^2 - 4x + 7x - 28$	$x^2 + 3x - 28$	2	M1 for 4 terms correct ignoring signs (e.g. $x^2, 4x, 7x, 28$ ) or 3 terms with correct signs (e.g. $x^2, -4x, 7x, -28$ ) A1 cao
12		correct drawing	2	B2. Condone hidden detail shown with solid lines, or missing lines on front face. (B1 for : one sketch correct with other sketches incorrect cross-section correct with depth $> 1$ cube, correct plan and side elevation)

No	Working	Answer	Mark	Notes
13	$\frac{600}{3 \times 10}$ or $\frac{640}{3.2 \times 10}$	20 to 21 $\frac{1}{3}$	2	M1 For rounding at least two of the numbers to 1 sf, or for sight of 640, 3.2 or 640, 32 or 600, 32 or 30 seen A1 for 20 to 21 $\frac{1}{3}$ NB: 20.3125 scores M0 A0
14		correct reflection reflection in $y = x$	2 2	B2 (B1 reflection in line other than $x=3$ ) B2 cao Accept the word “reflected” (B1 any statement including the word “reflection”)
15	$x + y = 10$ and $x - y = 4$	$5^6$ $5^3$ $x = 7$ $y = 3$	1 1 3	B1 accept 15125, $5^{4+2}$ B1 accept 125, $5^{9-6}$ M1 for either $x + y = 10$ or $x - y = 4$ A2 for both values correct [(A1 for one value correct) If M0, award B3 for both values correct or B2 for one value correct, otherwise B0] SC B2 for $x = 3$ and $y = 7$

No	Working	Answer	Mark	Notes
16	$5 - 3x = 2x + 2$ $5 - 2 = 2x + 3x$	$\frac{3}{5}$  $-3, -2, -1, 0, 1, 2$	3	B1 for $2x + 2$ seen OR $2.5 - 1.5x = x + 1$ M1 for correct rearrangement of 4 terms A1 for $\frac{3}{5}$ oe B2 (B1 for 5 correct and not more than one incorrect integers)
17		question + response boxes oe	2	1 <sup>st</sup> aspect: One question with time period (eg each night); ignore other questions. 2 <sup>nd</sup> aspect: Response list (at least two), not overlapping.* 3 <sup>rd</sup> aspect: Some mention of units (eg hours) in either question or responses Award B2 for all three aspects, or B1 for just two aspects. * 0-1, 2-3, 4-5 is OK, but 0-1, 1-2, 2-3 is not OK.

No	Working	Answer	Mark	Notes
18	<p>(a) <math>\frac{2}{3} \times \frac{3}{4} = \frac{6}{12}</math></p> <p>(b) <math>1 + 2 + \frac{8}{12} + \frac{9}{12}</math></p>	<p>(a) <math>1 \frac{1}{2}</math></p> <p>(b) <math>4 \frac{5}{12}</math></p>	<p>2</p> <p>3</p>	<p>M1 for <math>\frac{6}{12}</math> or <math>\frac{3}{6}</math> or <math>\frac{2 \times 3}{3 \times 4}</math></p> <p>A1 accept 0.5</p> <p>M1 for attempt to convert to fractions with common denominator e.g two fractions, denominator of 12</p> <p>A1 correct conversion : <math>\frac{8}{12}</math> and <math>\frac{9}{12}</math>,</p> <p><math>\frac{20}{12}</math> and <math>\frac{33}{12}</math> seen (oe)</p> <p>A1 cao for <math>4 \frac{5}{12}</math></p> <p>OR</p> <p>attempts to convert to decimals: must use at least 2dp</p> <p>M1 0.66+0.75 (or 1.66+2.75) or 0.67+0.75 etc</p> <p>A1 4.41, 4.417, 4.416</p> <p>A1 4.416 (<i>recurring</i>)</p>
19	<p><math>2 \times \frac{1}{2} \times 6 \times 8</math> or 48</p> <p><math>8 \times 9 + 6 \times 9 + 10 \times 9</math></p> <p>or <math>72 + 54 + 90</math></p>	264 cm <sup>2</sup>	4	<p>M1 attempt to find the area of one face;</p> <p><math>\frac{1}{2} \times 6 \times 8</math> or <math>(8 \times 9)</math> or <math>(6 \times 9)</math> or <math>(10 \times 9)</math> or 72 or 54 or 90 or 24</p> <p>M1 all five faces with an intention to add</p> <p>A1 cao numerical answer of 264</p> <p>B1 (indep) cm<sup>2</sup> with or without numerical answer</p>

No	Working	Answer	Mark	Notes									
20	<table border="1" style="width: 100%; height: 80px;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;"><math>\sqrt{\quad}</math></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;"><math>\sqrt{\quad}</math></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;"><math>\sqrt{\quad}</math></td> </tr> </table>		$\sqrt{\quad}$				$\sqrt{\quad}$			$\sqrt{\quad}$	$\frac{\pi ab^3}{3d} \quad 3(c+d)^3 \quad 3\pi bc^2$	3	B3 (B1 for each one correct) Nb -B1 for each of the 4 <sup>th</sup> , 5 <sup>th</sup> , 6 <sup>th</sup> tick
	$\sqrt{\quad}$				$\sqrt{\quad}$			$\sqrt{\quad}$					
21	(a) $x + 0.3 + 0.2 + x = 1$  (b) $0.3 \times 200$	0.25  60	2  2	M1 for $x + 0.3 + 0.2 + x = 1$ oe, or $0.5 \div 2$ A1 oe M1 $0.3 \times 200$ A1 cao Accept 60 out of 200 (in words) SC B1 for $\frac{60}{200}$									
22	(a) (b)	$(-12) - 4 - 2$ (0) 8 points plotted accurately points joined with smooth curve	3 2	B3 for all correct [(B1 for each one correct) B1 $\pm 1$ full (2mm) square ft table if at least B1 awarded (all 5 points plotted) B1 ft for any smooth curve if previous B1 gained NB: curve must pass within 1 full square of the points									
23		$\frac{1}{4}$ on LH branch $\frac{2}{3}$ & $\frac{1}{3}$ & $\frac{2}{3}$ on RH branches	2  B1	B1  B1									
24		$m=3$ $n=5$	2	B1 for 3 B1 for 5 (B2 for $2^3 \times 5$ or $2 \times 2 \times 2 \times 5$ ) SC: award B1 only if $m=5$ , $n=3$ or for $8 \times 5$ seen									



