

November 2011

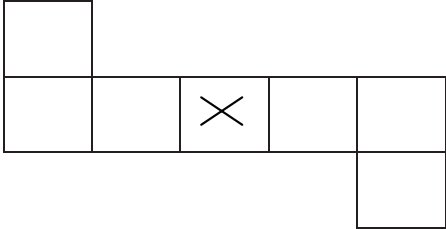
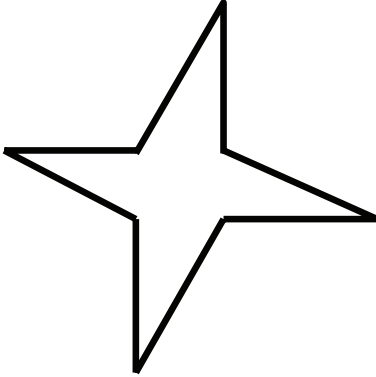
1380 1F					
Question		Working	Answer	Mark	Notes
1	(a)		1284	1	B1 cao
	(b)		Four thousand and sixty seven	1	B1 for four thousand (no hundreds) and sixty seven
	(c)		Twenty (20)	1	B1 For twenty or 20 or 2 tens
	(d)		1500	1	B1 cao
2	(a)	$960 - 23 + 16$	953	2	M1 $960 - 23 + 16$ oe A1 cao
	(b)	Non – lesson time = 60 min Total time = $3.5 + 3.5 = 7.0$ Lesson Time = “7” – “1”	6 hours	3	M1 for attempting to find the length of the total day by 3:30 – 8:30 or counting on from 8:30 to 3:30 or sight of 7 (hours) or for an attempt to find the total length of non-lesson, $40 + 20 (= 60)$ M1 (dep) for a correct complete method to find the total length of lesson time, eg “7” (hours) – “1” (hour) A1 cao [Note: 7 seen on the answer line with no working gets NO marks]
3	(a)		12	1	B1 cao
	(b)	15–8	7	1	B1 cao
	(c)		Bristol	1	B1 cao

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Question		Working	Answer	Mark	Notes
4	(a)		24	1	B1 cao
	(b)		Add 3	1	B1 add 3 or +3 oe
	(c)		7, 15	1	B1 cao (ignore anything past 15)
5	(a)		Leeds	1	B1 for Leeds (accept -12)
	(b)		4	1	B1 accept - 4
	(c)		7	1	B1 cao
	(d)		3 am	1	B1 3 am oe
6	(i)		1.5 – 2.1	3	B1 1.5 – 2.1 m oe (5ft to 6ft 6 inches) Correct units must be quoted M1 evidence of use of man's height to estimate bus length A1 ft on 4 to 5 times "(i)" OR B2 for an answer in the range 6 – 10.5 m oe (20 ft to 32.5 ft) Correct units must be quoted but not necessarily consistent with (i)
	(ii)		6 – 10.5 m		
7	(a)		6	1	B1 cao
	(b)		40	1	B1 cao

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Question		Working	Answer	Mark	Notes
8	(a)	$3.45 + 1.8 = 5.25$ $10 - 5.25$ Or $10 - 3.45 = 6.55$ $6.55 - 1.8$	4.75	3	M1 $3.45 + 1.8 (= 5.25)$ M1 $10 - '5.25'$ A1 cao [SC: B2 for an answer of 5.47 (B1 for 4.53 seen) if M0 scored] OR M1 for $10 - 3.45 (= 6.55)$ M1 for " 6.55 " $- 1.8$ A1 cao [SC: B2 for an answer of 5.47 if M0 scored] OR M1 for $10 - 1.8$ (or 8.2) M1 for " 8.2 " $- 3.45$ A1 cao [SC: B2 for an answer of 5.47 if M0 scored]
	(b)	$2000 \div 300$	6	2	M1 for 2 litres \div 300 mls ($= 6.66\dots$ or $6\frac{2}{3}$) oe A1 cao [SC: B1 for 1 litre = 1000 ml (or 2000 ml seen) if M0 scored]
9	(a)		60°	1	B1 cao
	(b)	$360 - 230 - 60 = 70$ $180 - 70 - 70$	40°	3	M1 for $360 - 230 - '60'$ ($= 70$) M1 (indep) for $180 - '70' - '70'$ The ' 70 ' may be just shown in the diagram A1 cao

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Question		Working	Answer	Mark	Notes
10	(a)		A and E	1	B1 cao
	(b)		D and F	1	B1 cao
	(c)		B and C	1	B1 cao
11	(a)		Likely	1	B1 cao
	(b)		Evens	1	B1 cao
	(c)		Impossible	1	B1 cao
12		$20 \times 5 = 100$ $5 \times 19 = 95$ or $4.9 \times 20 = 98$ or $4.8 \times 20 = 96$	£95 or £98 or £96 or £100	2	M1 for 5×19 or $4.9(0) \times 20$ or $4.8(0) \times 20$ or 5×20 A1 for £95 or £98 or £96 or £100 Do not accept attempts at accurate working
13	(a)		Rectangle 10 by 2 or 5 by 4 Or 8 by 2.5	2	M1 for any rectangle A1 for a rectangle drawn of area 20 cm^2
	(b)		A correct isosceles triangle [eg, base = 3cm, height = 8cm or base = 4cm, height = 6cm or base = 6cm, height = 4cm or base = 8cm, height = 3cm]	2	M1 for any isosceles triangle drawn or a triangle drawn with an area of 12 cm^2 A1 for correct sides (e.g. base 6, height 4; base 8, height 3) [Note: If fractional lengths used, this must be explicitly stated on an accurate diagram. Eg $12 = \frac{1}{2} \times 5 \times 4.8$, the 4.8 must be stated]

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Question		Working	Answer	Mark	Notes
14	(i)	$4 \times 5 + 2 \times \frac{1}{2} = 20 + 1$	21	3	M1 for $4 \times 5 + 2 \times \frac{1}{2} (= 20 + 1)$ these could be quoted separately A1 cao
	(ii)	$10 - 5^2 = 10 - 25$	-15		
15	(a)	$\begin{array}{r} 5 \ 5 \ 6 \ 4 \\ - 1 \ 2 \ 8 \\ \hline 4 \ 3 \ 6 \end{array}$ or $\begin{array}{r} 5 \ 6 \ 4 \\ - 1 \ 2 \ 8 \\ \hline 4 \ 3 \ 6 \end{array}$	436	2	M1 for evidence of a correct, method of decomposition or equal addition or use of complement to 200 or 6 seen in the units column of their answer A1 cao
	(b)	$4 \times 7 = 28 \times 5$ or $4 \times 35 (7 \times 5)$ or $4 \times 5 = 20 \times 7$	140	2	M1 for '4 × 7' × 5 or 4 × '7 × 5' or '4 × 5' × 7 A1 cao

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16	(a)			<p>× marked in the centre of the middle square</p> 	1	B1 cao Allow a cross drawn inside the square (not on a side of the square)
	(b)			<p>Completed shape</p> 	1	B1 cao

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Question		Working	Answer	Mark	Notes
17	(a)		28	1	B1 cao
	(b)	$40 + 28 + 22$	90	2	M1 for adding 2 or 3 distances, with at least 2 correct distances A1 cao [SC: B1 for an answer of 130 if M0 scored]
	(c)	Distance = $25 + 45 + 30 = 100$ Travel time = $100 \div 50 = 2$ OR $25 \div 50 + 45 \div 50 + 30 \div 50$ $= 30 + 54 + 36 \text{ mins} = 2$	14:00	4	M1 for $25 + 45 + 30 (=100)$ or for adding 2 or 3 distances with at least 2 correct M1 for ' $100 \div 50$ ' M1 (dep on at least one M1) for $9 + 3 +$ 'total time' A1 for 2 pm or 14 00 oe OR M1 for $25 \div 50 (=30 \text{ mins})$ or $45 \div 50 (= 54 \text{ mins})$ or $30 \div 50(= 36 \text{ mins})$ M1 for ' $25 \div 50$ ' + ' $45 \div 50$ ' + ' $30 \div 50$ ' or for adding 2 or 3 times of which at least 2 are from using correct distances M1 (dep on at least one M1) for $9 + 3 +$ 'total time' A1 for 2 pm or 14 00 oe
18	(a)	Gemma = $x + 4$ Jo = $x - 2$ $x + 4 + x - 2 + x = 23$	$x + 4 + x - 2 + x = 23$	2	M1 for $x + 4$ and $x - 2$ seen (ignore £ signs) A1 for $x + 4 + x - 2 + x = 23$ oe (accept $x = 7$ but do not accept £ signs in final equation [SC: B1 for $x = £7$, if M0 scored] The equation can be accepted if seen only in part (b)
	(b)	$3x + 2 = 23$ $3x = 21$	7	2	M1 for isolating terms in x and number terms on each side of an equation, ft from $ax + b = 23$ ($a \neq 0$ or 1) in (a) A1 for 7 or ft a correct solution of their equation [SC: B1 for an answer of 5 or 11]

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Question		Working	Answer	Mark	Notes
19	(a)	$\frac{4}{20}$	$\frac{1}{5}$	2	M1 for $\frac{4}{20}$ oe A1 cao [SC: B1 for $\frac{16}{20}$ oe, if M0 scored]
	(b)	$\frac{6}{20} \times 100$ Or $\frac{6}{20} = \frac{5 \times 6}{5 \times 20}$	30	2	M1 $\frac{6}{20} \times 100$ oe A1 cao OR M1 $\frac{6}{20} = \frac{5 \times 6}{5 \times 20}$ A1 cao
	(c)	$10 - 1.50 = 8.50$ $8.50 \div 2 = 4.25$ OR $10 \div 2 + 1.50 \div 2$ $= 5 + 0.75$	5.75	2	M1 $10 - 1.50 = 8.50$ and “8.50” $\div 2$ (= 4.25) or $10 + 1.50 = 11.50$ and “11.50” $\div 2$ or $10 \div 2$ and $1.5(0) \div 2$ or $2x + 1.5(0) = 10$ oe A1 cao
20	(a)	$4^2 + 6^2 = 2 \times 5^2 + 2 = 52$	$4^2 + 6^2$ $2 \times 5^2 + 2$	1	B1 cao
	(b)	$10^2 + 12^2 = 2 \times 11^2 + 2 = 244$	$10^2 + 12^2$ $2 \times 11^2 + 2$ 244	2	M1 for 2 of $10^2 + 12^2$, $2 \times 11^2 + 2$, 244 A1 for a fully correct line 10
	(c)	$2 \times 1000^2 + 2$ $2 \times 1\,000\,000 + 2$	2 000 002 or 2 million and 2	2	M1 $2 \times 1000^2 + 2$ A1 for 2000 002 or 2 million and 2

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Question		Working	Answer	Mark	Notes
21	(a)	$5.2 - 1.3$	3.9	2	M1 for sight of 5.2 and 1.3 or $52 - 13 (= 39)$ A1 cao
	(b)		3.1	2	M1 for sight of the 11 th value or 31 A1 cao
	(c)		$\frac{3}{21}$	2	M1 for $\frac{3}{q}$ ($q > 3$) or $\frac{n}{21}$ ($0 < n < 21$) or for sight of 3 and 21 A1 $\frac{3}{21}$ oe ignore any subsequent cancelling errors
22	(a)	$2(x - y) - 3(x - 2y)$ $= 2x - 2y - 3x + 6y$	$-x + 4y$	2	M1 $2x - 2y - 3x \pm 6y$ or $2x - 2y$ or $3x - 6y$ or $-3x + 6y$ A1 cao [SC B1 for $-x - 8y$ or $x + 4y$ if MO scored]
	(b)	$3y + 12 = y + 8$ $3y - y = 8 - 12$ $2y = -4$	-2	2	M1 for a correct attempt to collect either the numbers or the terms in y on one side of the equation A1 cao
	(c)		$2(2 + 3x)$	1	B1 for $2(2 + 3x)$ or $(2 + 3x)2$ or $2 \times (2 + 3x)$ or $(2 + 3x) \times 2$

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Question	Working	Answer	Mark	Notes
23	$\text{Ext angle} = \frac{360}{6}$ $\text{Int angle} = 180 - 60$ $120 + 90 = 210$ $360 - 210 = 150$ <p>OR</p> $180 \times 4 = 720$ $720 \div 6 = 120$ $120 + 90 = 210$ $360 - 210 = 150$ <p>OR</p> $\text{Ext angle} = \frac{360}{6}$ $\text{Ext angle} = 90$ $90 + 60$	150	4	<p>M1 (Ext angle =) $\frac{360}{6}$</p> <p>M1 (Int angle =) $180 - '60'$</p> <p>M1 (dep on at least M1) for $360 - ('120' + 90)$</p> <p>A1 cao</p> <p>[SC: B2 for an answer of 210]</p> <p>OR</p> <p>M1 for $180 \times 4 (= 720)$</p> <p>M1 for $'720' \div 6 (=120)$</p> <p>M1 (dep on at least M1) for $360 - ('120' + 90)$</p> <p>A1 cao</p> <p>OR</p> <p>M1 (Ext angle =) $\frac{360}{6} (= 60)$</p> <p>M1 (Ext angle =) $\frac{360}{4}$ or $180 - 90 (= 90)$ or 90 seen as an exterior angle on the diagram</p> <p>M1 (dep on at least M1) for $90 + '60'$</p> <p>A1 cao</p>

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Question		Working	Answer	Mark	Notes
24	(a)		New points plotted at (15, 22) and (55, 15)	1	B1 for points plotted with $\pm \frac{1}{2}$ square tolerance
	(b)		If the temperature increases so the time taken decreases	1	B1 If the temperature increases so the time taken decreases (accept negative correlation)
	(c)		18 – 20	2	M1 draw LOBF between (20,18) and (20, 22) to (70,3) and (70,8) A1 18 – 20 [B2 for an answer in the range 18 – 20 if M0 scored]
	(d)		Reason [For example, LOBF would give negative time or you should not use the LOBF beyond the given data.]	1	B1 reason e.g LOBF would give negative time, you should not use the LOBF beyond your data
25	(a)		Vertices at (–4, 2), (–4, 0), (0, 0) and (–2, 2)	2	M1 any translation A1 cao
	(b)		Vertices at (4, 4), (2, 4) and (2, 8)	2	M1 sight of the line $y = x$ or a correct reflection is in $y = -x$ A1 cao