	Alternative method 1		
	$7x - 3x = 36 - 16$	M1	oe elimination of one variable implied by $4x = n$, where $n < 36$ and $n \neq 16$
	$4x = 20$ or $x = 5$	A1	oe
	$y = 0.5$	A1	oe
	Alternative method 2		
	$7 \times 2y - 3 \times 2y = 7 \times 16 - 3 \times 36$ or $14y - 6y = 112 - 108$	M1	oe elimination of one variable implied by $21x + 14y = 112$ and $21x + 6y = 108$ followed by $8y = n$, where $n < 112$ and $n \neq 36$, 16 or 20
	$8y = 4$ or $y = 0.5$	A1	oe
	$x = 5$	A1	
1	**Alternative method 3**		
	$36 - 7x = 16 - 3x$ or $\dfrac{36 - 2y}{7} = \dfrac{16 - 2y}{3}$	M1	oe elimination of one variable
	$4x = 20$ or $x = 5$ or $8y = 4$ or $y = 0.5$	A1	oe collects terms oe
	$x = 5$ and $y = 0.5$	A1	oe
	Additional Guidance		

$x = 5$ and $y = 0.5$	M1A1A1
One correct value with one incorrect value (or no second value) and no working eg $x = 5$ and $y = 2$ or eg $x = 5$	M1A1A0
Embedded, correct values in both equations eg $7 \times 5 + 2 \times 0.5 = 36$ and $3 \times 5 + 2 \times 0.5 = 16$	M1A1A0
Embedded, correct values in one equation only eg $7 \times 5 + 2 \times 0.5 = 36$	M1A0A0

Question	Answer	Mark	Comments
	Alternative method 1: eliminates d		
	$4c + d = 7$ and $10c + d = 22$	M1	oe equations
	$(10 - 4)c = 22 - 7$ or $6c = 15$ or $c = 2.5$	M1dep	oe correct equation in c eg $10c + 7 - 4c = 22$
	$c = 2.5$ and $d = -3$	A1	oe fraction or mixed number for c
	Alternative method 2: eliminates c		
2(a)	$4c + d = 7$ and $10c + d = 22$	M1	
	$(10 - 4)d = 70 - 88$ or $6d = -18$ or $d = -3$	M1dep	oe correct equation in d eg $4\left(\dfrac{22 - d}{10}\right) + d = 7$
	$c = 2.5$ and $d = -3$	A1	oe fraction or mixed number for c
	Alternative method 3: works out the difference or the equation of the function through the points		
	(difference =) $\dfrac{22 - 7}{10 - 4}$ or 2.5	M1	(gradient =) $\dfrac{22 - 7}{10 - 4}$ or $(m =) 2.5$
	$c = 2.5$	M1dep	oe fraction or mixed number
	$c = 2.5$ and $d = -3$	A1	oe fraction or mixed number for c

Q	Answer	Mark	Comments
3	$b = 2c$ or $b = 16$ or $\dfrac{a}{b} \times \dfrac{b}{c} = 3c \times 2$	M1	oe eg $\dfrac{a}{2c} = 3c$ or $\dfrac{a}{16} = 3c$
	$(a =) 6c^2$ or $3 \times 8 \times 2 \times 8$ or 24×16 or 6×8^2 or 6×64	M1dep	oe
	384	A1	

Additional Guidance		
$\dfrac{b}{8} = 2$		M0
$\dfrac{a}{b} = 24$		M0

Q	Answer	Mark	Comments
	Alternative method 1		
	$5^2 + 7 \times 5 - c$ or $60 - c$ and $3 \times 5 + d$ or $15 + d$	M1	oe
	$25 + 35 - c = 15 + d$ or $60 - c = 15 + d$ or $c = 60 - y$ and $d = y - 15$ and $c + d = 60 - y + y - 15$	M1dep	oe equation with squaring and multiplications correctly completed
	45	A1	
	Alternative method 2		
4	$x^2 + 7x - c = 3x + d$ or $x^2 + 7x - c - (3x + d) = 0$ or $x^2 + 7x - c - 3x - d = 0$ or $3x + d - (x^2 + 7x - c) = 0$ or $3x + d - x^2 - 7x + c = 0$	M1	oe
	$(c + d =) x^2 + 7x - 3x$ or $(c + d =) x^2 + 4x$ and substitutes $x = 5$	M1dep	oe
	45	A1	
	Additional Guidance		
	Once $c + d = 45$ is seen, ignore further attempts to find values for c or d		
	45 on answer line with no working or no incorrect working		M1M1A1

Q	Answer	Mark	Comments
	Alternative method 1 – equates coefficients and eliminates an unknown		
	$8x - 20y = 52$ and $15x + 20y = 40$ or $6x - 15y = 39$ and $6x + 8y = 16$	M1	oe equates coefficients of one unknown allow one term error
	$8x + 15x = 52 + 40$ or $23x = 92$ or $-15y - 8y = 39 - 16$ or $-23y = 23$	M1dep	oe eliminates an unknown must be correct for their equations
	$x = 4$ and $y = -1$	A2	A1 $x = 4$ from correct method or $y = -1$ from correct method
5	**Alternative method 2 – substitutes for x**		
	$x = 6.5 + 2.5y$ or $x = \dfrac{8}{3} - \dfrac{4}{3}y$	M1	oe makes x the subject of one equation allow one term error
	$3(6.5 + 2.5y) + 4y = 8$ or $11.5y = -11.5$ or $2(\dfrac{8}{3} - \dfrac{4}{3}y) - 5y = 13$ or $-\dfrac{23}{3}y = \dfrac{23}{3}$	M1dep	oe eliminates x must be correct for their rearrangement
	$x = 4$ and $y = -1$	A2	A1 $y = -1$ from this method

5 cont	**Alternative method 3 – substitutes for y**		
	$y = 0.4x - 2.6$ or $y = 2 - 0.75x$	M1	oe makes y the subject of one equation allow one term error
	$3x + 4(0.4x - 2.6) = 8$ or $4.6x = 18.4$ or $2x - 5(2 - 0.75x) = 13$ or $5.75x = 23$	M1dep	oe eliminates y must be correct for their rearrangement
	$x = 4$ and $y = -1$	A2	A1 $x = 4$ from this method
	Alternative method 4 – makes the same unknown the subject in both equations		
	$x = 6.5 + 2.5y$ or $x = \dfrac{8}{3} - \dfrac{4}{3}y$ or $y = 0.4x - 2.6$ or $y = 2 - 0.75x$	M1	oe makes y or x the subject of one equation allow one term error
	$6.5 + 2.5y = \dfrac{8}{3} - \dfrac{4}{3}y$ or $\dfrac{23}{6}y = -\dfrac{23}{6}$ or $0.4x - 2.6 = 2 - 0.75x$ or $1.15x = 4.6$	M1dep	oe makes y or x the subject of both equations (maximum one term error) and eliminates y or x must be correct for their rearrangements
	$x = 4$ and $y = -1$	A2	A1 $x = 4$ from correct method or $y = -1$ from correct method

Additional Guidance		
Up to M2 may be awarded for correct work seen in multiple attempts, even if not subsequently used		
In alts 2, 3 and 4 allow rounding or truncating to 1dp or better for up to M1M1 eg (Alt 4) $6.5 + 2.5y = 2.7 - 1.3y$		M1M1
Answers from trial and improvement or with no working score 0 or 4		