Question	Answer	Marks	Guidance
1	$\pm 3(x+4)(2x-1)(x-2)$	**3**	**B1** for $\pm$ **B1** for 3, may be implied by a linear factor **B1** for $(x+4)(2x-1)(x-2)$ and no extra terms; may be implied if 3 is included
2(a)	$2^{8(x+y)} \times 2^{4(-2x)} = 2^{3(-x+3y)}$	**M1**	For attempt at a common factor, must have at least one correct
	$y = 3x$	**A1**	Must show sufficient detail
2(b)	$x^2 + 3(9x^2) = 56$ or $\frac{y^2}{9} + 3y^2 = 56$	**M1**	For obtaining an equation in terms of one variable using *their* $y = 3x$ with attempt to solve to obtain $x =$, or $y =$
	$x = \sqrt{2},\ y = 3\sqrt{2}$ or exact equivalent $x = -\sqrt{2},\ y = -3\sqrt{2}$ or exact equivalent	**2**	**A1** for a correct pair
3	$b = \frac{3}{8}$	**B1**	
	$6 = a + c$ or $0 = -\frac{a}{2} + c$	**M1**	For using either intercept with *their b*
	$c = 2$	**A1**	
	$a = 4$	**A1**	
4	$\ln(4x+3)$	**B1**	
	$2\ln(8a+7) - 2\ln(3)\ \ (= \ln 16)$	**M1**	**Dep** for correct application of limits in *their* $k\ln(4x+3)$
	$(2)\ln\frac{8a+7}{3}$ oe	**M1**	**Dep** for use of division rule
	$\ln 16 = 2\ln 4$ oe	**B1**	
	$a = \frac{5}{8}$ only	**A1**	
5(a)	${}^{15}C_3 k^3 = -29120$ oe	**M1**	
	$k = -4$	**A1**	

© Cambridge University Press & Assessment 2024