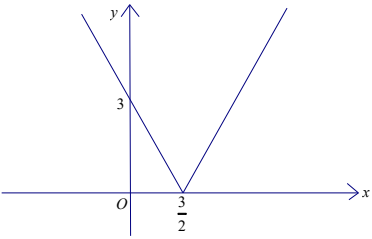


10(a)	State or imply the form $A + \frac{B}{3+x} + \frac{Cx+D}{2+x^2}$
	Use a correct method for finding a constant
	Obtain one of $A = 1$, $B = -4$, $C = 1$ and $D = -3$
	Obtain a second value
	Obtain a third value
	Obtain all four correct values
10(b)	Use a correct method to find the first two terms in the expansion of $(3+x)^{-1}$, $\left(1+\frac{x}{3}\right)^{-1}$, $(2+x^2)^{-1}$ or $\left(1+\frac{x^2}{2}\right)^{-1}$
	Obtain correct unsimplified expansions up to the term in x^2 of each partial fraction
	Multiply $(Cx+D)$ by the expansion of $\left(1+\frac{x^2}{2}\right)^{-1}$ up to the term in x^2 where $CD \neq 0$
	Obtain final answer $-\frac{11}{6} + \frac{17}{18}x + \frac{65}{108}x^2$

1(a)	
1(b)	Obtain critical value $\frac{4}{5}$ from $3x-1=3-2x$
	State final answer $x < \frac{4}{5}$
	Alternative Method for Question 1(b)
	Obtain critical value $\frac{4}{5}$ from $(3x-1)^2 = (3-2x)^2$
	State final answer $x < \frac{4}{5}$
5	Use $f(-2a) = -22a^3$
	Obtain $-24a^3 + 4pa^3 - 14a^3 + qa^3 = -22a^3$
	Use $f\left(\frac{a}{3}\right) = -a^3$
	Obtain $\frac{1}{9}a^3 + \frac{1}{9}pa^3 + \frac{7}{3}a^3 + qa^3 = -a^3$
	Obtain $p = 5, q = -4$

10(a)	Divide by $(x^2 - 3)$ to obtain $x + k$ ($k \neq 0$)
	Obtain quotient $x + 5$
	Obtain remainder x
10(b)	
	Separate variables correctly and obtain $\int 6y \, dy = 3y^2$
	Obtain $\frac{1}{2}x^2 + 5x$
	Obtain $\frac{1}{2}\ln(x^2 - 3)$
	Use $y = 2$, $x = 2$ to evaluate the constant of integration in an integral containing $k \ln(x^2 - 3)$
	Obtain $y^2 = \frac{1}{6}x^2 + \frac{5}{3}x + \frac{1}{6}\ln(x^2 - 3)$

2(a)	Find the first two terms of the expansion of $(1 - 2x)^{-\frac{3}{2}}$
	Obtain correct third term $\frac{-\frac{3}{2}\left(-\frac{3}{2}-1\right)}{2!}(-2x)^2$ or $\frac{-\frac{3}{2}\left(-\frac{3}{2}-1\right)}{2!}(2x)^2$
	Multiply <i>their</i> 3 term expansion $a + bx + cx^2$ by $(6 - x)$ obtaining all necessary terms
	$6 + 17x + 42x^2$
2(b)	$ x < \frac{1}{2}$ or $-\frac{1}{2} < x < \frac{1}{2}$ or $(-0.5, 0.5)$ or $] -0.5, 0.5[$
10(a)	Obtain quotient $\frac{1}{4}$
	Obtain remainder $-\frac{1}{4}$

10(b)	Commence integration by parts and reach $Ax^2 \tan^{-1} 2x \pm \int x^2 \frac{B}{C + Dx^2} dx$
	Obtain $\frac{1}{2}x^2 \tan^{-1} 2x - \int \frac{x^2}{1 + 4x^2} dx$
	Integrate $\int \frac{x^2}{1 + 4x^2} dx$ to obtain an expression of the form $p \tan^{-1} 2x + qx$
	Complete integration and obtain $\frac{1}{2}x^2 \tan^{-1} 2x + \frac{1}{8} \tan^{-1} 2x - \frac{1}{4}x$
	Substitute limits correctly in an expression of the form $Fx^2 \tan^{-1} 2x + G \tan^{-1} 2x + Hx$
	Obtain answer $\frac{1}{16}\pi - \frac{1}{8}$ or exact one- or two-term equivalent with trigonometry evaluated