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No.	SOLUTION
1(a)	$\left(\dfrac{x^5y^4}{64z^0}\right)\left(\dfrac{8y^3}{x^3}\right)$ $=\dfrac{8x^{5-3}y^{4+3}}{64(1)}$ $=\dfrac{x^2y^7}{8}$
1(b)	$\left(3p^2q^{-2}\right)^2\left(27p^2q^{-5}\right)^{-1}$ $=\left(3p^2q^{-2}\right)^2\times\dfrac{1}{27p^2q^{-5}}$ $=9p^4q^{-4}\times\dfrac{1}{27p^2q^{-5}}$ $=\dfrac{p^2q}{3}$
1(c)	$\left(\sqrt{\dfrac{36x^4}{y^{12}}}\right)\times\dfrac{y^6}{2x}$ $=\dfrac{6x^2}{y^6}\times\dfrac{y^6}{2x}$ $=3x$
2(a)	$(2a+b)^2-(2a-b)^2$ $=\left[2a+b+2a-b\right]\left[2a+b-(2a-b)\right]$ or $4a^2+4ab+b^2-\left(4a^2-4ab+b^2\right)$ $=8ab$
2(b)	$\begin{array}{r l} & x^2+x-2 \\ x+1\,\big) & x^3+2x^2-x+5 \\ & -\underline{(x^3+x^2)} \\ & x^2-x \\ & -\underline{(x^2+x)} \\ & -2x+5 \\ & -\underline{(-2x-2)} \\ & 7 \end{array}$ $\therefore$ quotient = x^2+x-2 and remainder $=7$
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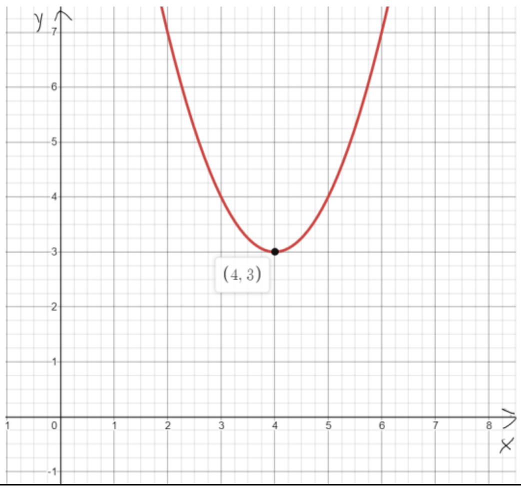
2(c)	$(x+5)^3-9x-45$ $=(x+5)^3-9(x+5)$ $=(x+5)\left[(x+5)^2-9\right]$ $=(x+5)\left[(x+5)+3\right]\left[(x+5)-3\right]$ $=(x+5)(x+8)(x+2)$
2(d)	Let $f(x)=2x^3+ax^2-7x+b$, as $(x-2)$ is a factor of $2x^3+ax^2-7x+b$, $f(2)=0$ $2(2)^3+a(2)^2-7(2)+b=0$ $16+4a-14+b=0$ $4a+b=-2$ Since $2x^3+ax^2-7x+b$ has a remainder of -10 when divided by $(x+3)$, $f(-3)=-10$ $2(-3)^3+a(-3)^2-7(-3)+b=-10$ $-54+9a+21+b=-10$ $9a+b=23$ $4a+b=-2$ (1) $9a+b=23$ (2) (2) − (1): $5a=25$ $a=\frac{25}{5}=5$ Subst $a=5$ in (1): $4(5)+b=-2$ $b=-2-20=-22$
3(a)(i)	$\frac{12a^9b^8}{a^2+3a-4}\times\frac{a-1}{3a^2b^5}$ $=\frac{12a^9b^8}{(a-1)(a+4)}\times\frac{a-1}{3a^2b^5}$ $=\frac{4a^7b^3}{(a+4)}$
3(a)(ii)	$\frac{x+3}{x^2-25}-\frac{1}{x+5}$ $=\frac{x+3}{(x+5)(x-5)}-\frac{1}{x+5}$ $=\frac{x+3}{(x+5)(x-5)}-\frac{(x-5)}{(x+5)(x-5)}$ $=\frac{x+3-x+5}{(x+5)(x-5)}$

	$= \dfrac{8}{(x+5)(x-5)}$
3(a)(iii)	$\dfrac{\frac{1}{u}-\frac{1}{3u}}{\frac{1}{u}-\frac{1}{6u}}$ $= \dfrac{\frac{3}{3u}-\frac{1}{3u}}{\frac{6}{6u}-\frac{1}{6u}}$ $= \dfrac{\frac{2}{3u}}{\frac{5}{6u}}$ $= \dfrac{4}{5}$
4	$\dfrac{2x^2+7x-1}{(x+1)(x^2+5)} = \dfrac{A}{x+1} + \dfrac{Bx+C}{x^2+5}$ Multiply every term by $(x+1)(x^2+5)$, $2x^2+7x-1 = A(x^2+5)+(Bx+C)(x+1)$ Subst $x=-1$: $-6=6A$ $A=-1$ Comparing coefficients of x^2, $2 = A+B$ $2=-1+B$ $B=3$ Comparing constant terms, $-1=5A+C$ $-1=-5+C$ $C=4$ $\dfrac{3x^2-4x+7}{(x-1)(x^2+2)} = -\dfrac{1}{x-1} + \dfrac{3x+4}{x^2+2}$

5(a)	$f(-1)=-2$ $f(2)=-5$
5(b)	$x=-0.8,\ 1,\ 3.8$
5(c)	$f'(0)=0$ The gradient of the tangent line at $x=0$ is 0.
5(d)	$\{0<x<1\}$ or (0,1)
5(e)	$f'(1)$ is negative and $f'(4)$ is positive, hence $f'(1)$ is less than $f'(4)$.
5(f)	The domain is $\{x \mid -\infty<x<\infty\}$ or $(-\infty,\infty)$ The range is $\{f(x) \mid -\infty<f(x)<\infty\}$ or $(-\infty,\infty)$
6(a)(i)	$g(6)=(6-4)^2+3$ $=7$
6(b)(ii)	$g(k+1)=(k+1-4)^2+3$ $=(k-3)^2+3$ $=k^2-6k+12$
6(b)	The graph $g(x)=(x-4)^2+3$ is the graph of $f(x)=x^2$ shifted 4 units to the right, and 3 units upward. 
7 (a)	$R(x) = (12 + 0.5x)(36 - 2x)$ $= 432 - 6x - x^2$ $= -x^2 - 6x + 432$
(b)	$R(0) = 432$.

	This means rental per canoe is kept at $12, or no increase in rental price
(c)	x is negative, means you lower the rental price
(d)	<table><tr><td>x</td><td>-4</td><td>-3</td><td>-2</td><td>-1</td><td>0</td><td>1</td><td>2</td></tr><tr><td>$R(x)$</td><td>440</td><td>441</td><td>440</td><td>437</td><td>432</td><td>425</td><td>416</td></tr></table>
(e)	You charge =12-3(0.5)=$10.5 per canoe for maximum revenue
(f)	It means you rent the canoe for free