<u>Y12</u> : PRACTICE ASSESSMENT B .	ACHIEVEMENT LEVEL ONLY.
Algebra.	Calculus.
1. Expand:	1. Find the gradient
(a) $(5x-4)^2$	$of y = x^3 at x = 2$
(b) (x-2)(x+3)(x-5)	
2. Simplify fully:	2. Find the x value of the point on the
(a) $\sqrt{(9c^{16})}$	$curve \ y = x^2 + 2x$
(b) $(27a^{3}b^{12})^{\frac{1}{3}}$	where the gradient equals 8.
3. Combine into one	
log function:	3. Find the x value of the points on the
$3\log a - 2\log b$	curve
4. Simplify fully:	$y = 2x^3 - 6x$ where the gradient is zero.
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3 - 2	
(x+2) $(x+3)$	4. Find y if $5-3^3 + 7-2^2 + 1$
5 Salve.	y = 5x + 7x + 1
(a) $9(x+2)=5(x-3)$	
$(b) \ 5x^2 + 2x - 3 = 0$	
(c) $-3x > 12$	5. Find the equation of the curve given
	that $f'(x) = 12x^2 - 2$ and the point (3, 4)
(d) $\log_4 x = 4$	is on the curve.
(e) $\log_{b} 64 = 2$	
6. Solve:	6. If $y' = x(6-x)$
$(a) (x^2 - 9)(x^2 - 4) = 0$	find y if $x = 1$, $y = 10$
(b) $3(x-4) - (x-2) < 2$	
$\frac{1}{4}$ $\frac{1}{2}$	
	7. Given that
7. Rearrange the formula $V = \pi r^2 h$	$f'(x) = 4x + 3x^2$
to make r the subject.	find $f(r)$ if $f(1) = 2$
	$\int \int \partial f = 2$