

Activity 3

What facts, concepts and techniques do students have to use to do these questions successfully?

A. Specimen paper P1

1. Given that  $y = 4x^3 - \frac{5}{x^2}$ ,  $x \neq 0$ , find in their simplest form

(a)  $\frac{dy}{dx}$ , (3)

(b)  $\int y \, dx$  (3)

B. Practice paper P2

- (a) Find the first four terms, in ascending powers of  $x$ , in the binomial expansion of

$$\left(1 - \frac{1}{8}x\right)^{10}$$

giving each term in its simplest form.

C Practice paper P1

1. The point  $P(3, -4)$  lies on the curve with equation  $y = f(x)$

State the coordinates of the image of  $P$  under the transformation represented by the curve with equation

(a)  $y = f(x - 2)$  (1)

(b)  $y = -f(x)$  (1)

(c)  $2y = f(x)$  (1)

(d)  $y = f(x) + 4$  (1)