Number Division

$$53 \div 6$$

$8 \; r \; 5$

$8\frac{5}{6}$

$8 + \frac{5}{6}$

$$\begin{array}{r} 5x^2 + 13x + 18 \\ x-2 \enclose{longdiv}{5x^3 + 3x^2 - 8x + 4} \end{array}$$

$5x^3 - 10x^2$

$+13x^2 - 8x$

$+13x^2 - 26x$

$+18x + 4$

$(x-2)(5x^2+13x+18)+40$

$+18x - 36$

$+40$

Ex 1F Q6

$$\begin{array}{r} 4x - 13 \\ x^2+2x-1 \enclose{longdiv}{4x^3 - 5x^2 + 3x - 14} \end{array}$$

$4x^3 + 8x^2 - 4x$

$-13x^2 + 7x - 14$

$-13x^2 - 26x + 13$

$+33x - 27$

$$= \quad 4x - 13 + \frac{33x - 27}{x^2 + 2x - 1}$$

Ex 12 Page 15

$$x^3 + x^2 - 7 \equiv (Ax^2 + Bx + c)(x-3) + D$$

$x=3$

$$3^3 + 3^2 - 7 = D$$
$$27 + 9 - 7 = D \qquad D = 29$$

$x=0$

$$-7 = C(-3) + 29$$
$$3c = 29 + 7 = 36$$
$$C = \frac{36}{3} \qquad C = 12$$

Coeff of x^3

$$1 = A \qquad A = 1$$

Coeff of x^2

$$1 = -3A + B$$
$$1 = -3 + B \qquad B = 4$$
$$4 = B$$

$$
\begin{array}{r}
x^2 + 4x + 12 \\
x-3 \overline{\smash{\big)}\, x^3 + x^2 \qquad\quad -7} \\
\underline{x^3 - 3x^2} \\
+4x^2 \\
\underline{+4x^2 - 12x} \\
+12x - 7 \\
\underline{+12x - 36} \\
+29
\end{array}
$$

$$x^2 + 4x + 12 + \frac{29}{x-3}$$

Next Lesson   Monday 29 June 7pm

Homework to be emailed by Sunday 28 June

Page 16 Exercise 1F

Q1, Q2, Q5, Q7, Q8

DS