

BM1 T 1E, 3.11.2016

① a) $-x^7$ b) $-x^{12}$

② a) $\frac{3-x}{x^2+2x-15} = \frac{3-x}{(x-3)(x+5)} = -\frac{x-3}{(x-3)(x+5)}$
 $= -\frac{1}{x+5} \quad \left(= \frac{1}{-x-5} \right)$

b) $\frac{2a^2-4ab}{a^2-4ab+4b^2} = \frac{2a(a-2b)}{(a-2b)^2}$
 $= \frac{2a}{a-2b}$

c) $\frac{2x^3-14x^2+12x}{x^3-12x^2+36x} = \frac{2x(x^2-7x+6)}{x(x^2-12x+36)}$
 $= \frac{2x(x-1)(x-6)}{x(x-6)^2} = \frac{2(x-1)}{x-6}$

③ a) $(2x^3-3x^2-18x-8) : (2x+1) = \underline{\underline{x^2-2x-8}}$

$$\begin{array}{r} 2x^3 + x^2 \\ -4x^2 - 18x - 8 \\ -4x^2 - 2x \\ \hline -16x - 8 \\ -16x - 8 \\ \hline 0 \end{array}$$

b) $(4x^4+20x^3+25x^2+5x+6) : (x+3) = \underline{\underline{4x^3+8x^2+x+2}}$

$$\begin{array}{r} 4x^4 + 12x^3 \\ 8x^3 + 25x^2 + 5x + 6 \\ 8x^3 + 24x^2 \\ \hline x^2 + 5x + 6 \\ x^2 + 3x \\ \hline 2x + 6 \\ 2x + 6 \\ \hline 0 \end{array}$$