

Unit 5 Day 6

5-5 Polynomial Divided by a Monomial

May.6th, 2016

1) Review : $(2x-1)^3$

$$\begin{aligned}
 &= (2x-1)(2x-1)(2x-1) && \overbrace{(2x-1)(2x-1)} \\
 &= (4x^2-4x+1)(2x-1) && = 4x^2-2x-2x+1 \\
 &= 8x^3-4x^2-8x^2+4x+2x-1 && = 4x^2-4x+1 \\
 &= 8x^3-12x^2+6x-1
 \end{aligned}$$

2) $(2x-3)^3$

$$\begin{aligned}
 &= (4x^2-12x+9)(2x-3) && = (2x-3)(2x-3) \\
 &= 8x^3-12x^2-24x^2+36x && = 4x^2-6x-6x+9 \\
 & && +18x-27 \\
 &= 8x^3-36x^2+54x-27
 \end{aligned}$$

If $\frac{6x}{2} - \frac{8}{2} = \frac{6x-8}{2}$, the reverse is true.

<p>1) $\frac{6x-12}{4}$</p> $ \begin{aligned} &= \frac{6x}{4} - \frac{12}{4} \\ &= \frac{3x}{2} - 3 \end{aligned} $	<p>2) $\frac{12x^3-15x^2}{3x}$</p> $ \begin{aligned} &= \frac{12x^3}{3x} - \frac{15x^2}{3x} \\ &= 4x^2 - 5x \end{aligned} $	<p>3) $\frac{16x^2-10x}{4x}$</p> $ \begin{aligned} &= \frac{16x^2}{4x} - \frac{10x}{4x} \\ &= 4x - \frac{5}{2} \end{aligned} $
---	---	--

4) $\frac{8ab^2-20a^3b}{12a^2b^3}$

$$\begin{aligned}
 &= \frac{8ab^2}{12a^2b^3} - \frac{20a^3b}{12a^2b^3} \\
 &= \frac{2}{3ab} - \frac{5a}{3b^2}
 \end{aligned}$$

5) $\frac{12x^3-15x^2y^2-20xy}{-20xy^3}$

$$\begin{aligned}
 &= -\frac{12x^3}{20xy^3} + \frac{15x^2y^2}{20xy^3} + \frac{20xy}{20xy^3} \\
 &= -\frac{3x^2}{5y^3} + \frac{3x}{4y} + \frac{1}{y^2}
 \end{aligned}$$

5-6