How do I factor out the GCF?

Step 1: Identify the GCF of the polynomial

$$14y^5 - 4y^3 + 2y$$

What is the largest monomial that we can factor out?

The GCF is.....*2y*

Step 2: Divide the GCF out of every term of the polynomial

Factor out our GCF
2y

$$\frac{14y^5}{2y} - \frac{4y^3}{2y} + \frac{2y}{2y}$$

$$2y(7y^4 - 2y^2 + 1)$$

Factor each of the following:

1) $\frac{3x^4}{3x} \frac{-15x^2}{3x} \frac{+24x}{3x}$

$3x(x^3 - 5x + 8)$

2) $\frac{18\ a^3b^6}{9ab} + \frac{27ab^2}{9ab} \frac{-36ab}{9ab}$

$9ab(2a^2b^5 + 3b - 4)$

$\frac{-6x + 12x^2}{-6x}$

$-6x(1 - 2x)$

3) $\frac{-21rt}{-7r} \frac{- 49\ r^4}{-7r} \frac{- 35r^3t}{-7r}$

$-7r(3t + 7r^3 + 5r^2t)$

4) $\frac{6\ xy^2}{y} + \frac{7x^2y}{y} + \frac{2y}{y}$

$y(6xy + 7x^2 + 2)$

Simplify then Factor:

1) $2x^3 - 5x + 7 + 6x^3 + x + 1$

$8x^3 - 4x + 8$

2) $-7n^3y -5n^2y^3 + 2ny^2 -n^2y^3 -n^3y -12ny$

$\frac{-8n^3y}{-2ny} \frac{-6n^2y^3}{-2ny} \frac{+2ny^2}{-2ny} \frac{-12ny}{-2ny}$

$-2ny(4n^2 + 3ny^2 - y + 6)$

3.3 Common Factors of a Polynomial

Exercises Page 155

A

4 5 6a

B

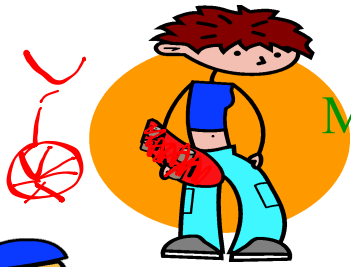7 8 9 10 11 12 13 14

15 16 17 18 19 20
b
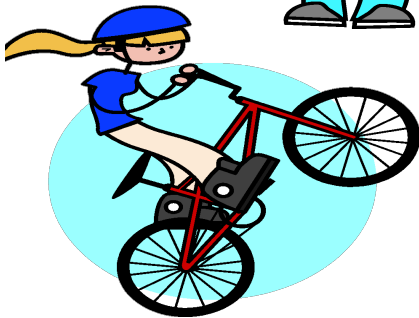
C

21 22

Reflect

$$\frac{6}{3} + \frac{15n}{3}$$

$$3(2 + 5n)$$

Polynomials

Monomial _____ term

Binomial _____ terms

Trinomial _____ terms

Terms are separated by "+" and "-" signs.

Simplify:

Collect like terms.

$$2x - 7 + 3x^2 - 5x - 2 - 2x^2$$

$$x^2 - 3x - 9$$

Homework   Pg 155

#9

Do #16 if you haven't
already

#14

Practice
for Quiz   Pg 140
#9   #11   #17