

January 7

Unit 3 Bare Necessities - Stats and Factoring



Factor Using GCF

EX1. $\frac{45x^2}{5x} - \frac{25}{5x}$ GCF: $5x$

$5x(9x - 5)$

EX2. $\frac{-18a^5b^4c}{-6a^3b^2} + \frac{12a^4b^2c^2}{-6a^3b^2} - \frac{30ab^2}{-6a^3b^2}$ GCF: $-6a^3b^2$

$-6a^3b^2(3a^2b^2c - 2ac^2 + 5)$

Factor Difference of Squares

EX3. $h^2 - 100$

$\sqrt{h^2} = h$

$\sqrt{100} = 10$

$(h + 10)(h - 10)$

Factor Trinomials

EX3. $g^2 + 5g - 24$

$g^2 - 24 = -24g^2$

$-3g + 8g = 5g$

$\frac{g^2 - 3g}{g} + \frac{8g - 24}{8} = \frac{g(g-3)}{g} + \frac{8(g-3)}{8}$

$(g-3)(g+8)$

multiply to -24
 $(-3 \cdot 8) \quad 3 \cdot -8$

EX4. $6x^2 - 19x + 10$

$6x^2 \cdot 10 = 60x^2$

$-4x + -15x = -19x$

multiply to 60

$3 \cdot 20 \quad -3 \cdot -20$

$30 \cdot 2 \quad -30 \cdot -2$

$4 \cdot 15 \quad (-4 \cdot -15)$

$\frac{6x^2 - 4x}{2x} + \frac{-15x + 10}{-5} = \frac{2x(3x-2)}{2x} + \frac{-5(3x-2)}{-5}$

$2x(3x-2) - 5(3x-2)$

$(3x-2)(2x-5)$

Zeros From Factors

EX5. Find the zeroes of:

$f(x) = 3x(x-5)^4(x+2)$

$\frac{3x}{3} = 0$
 $x = 0$
mult: 1

$\frac{x-5}{5} = 0$
 $x = 5$
mult: 4

$\frac{x+2}{-2} = 0$
 $x = -2$
mult: 1

EX6. Write the polynomial given zeroes:

$x = 5$ mult: 3, $x = -1$ mult: 9, $x = 2$ mult: 1

$\frac{x-5}{-5} = 0$
 $x-5 = 0$

$\frac{x+1}{+1} = 0$
 $x+1 = 0$

$\frac{x-2}{-2} = 0$
 $x-2 = 0$

$f(x) = (x-5)^3(x+1)^9(x-2)$