

R9 WARMUP - Sample of each type of factoring (circle answer)

Factor each completely.

STEP I: ALWAYS FACTOR OUT A COMMON GCF!!!

1) $-16x^2 + 28x$

$-4x(4x - 7)$

ALWAYS FACTOR OUT (-1) WHEN THE LEADING COEF. IS NEGATIVE.

2) $9x^9 - 18x^4 - 18x^3$

$9x^3(x^6 - 2x - 2)$

3) $7x^2 - 12x + 5$

$(7x - 5)(x - 1)$

4) $16x^2 - 225$

$(4x + 15)(4x - 15)$

NOTICE: 2 TERMS
look for PSQ - PSQ

5) $25x^2 - 40x + 16$

$(5x - 4)^2$ or $(5x - 4)(5x - 4)$

NOTICE 1ST + LAST TERMS ARE PERFECT SQUARES

6) $16x^2 + 40x + 25$

$(4x + 5)^2$ or $(4x + 5)(4x + 5)$

7) $20x^3 - 16x^2 + 25x - 20$

$(4x^2 + 5)(5x - 4)$

4 TERMS
THINK FACTOR BY GROUPING

$4x^2(5x - 4) + 5(5x - 4)$

$(5x - 4)(4x^2 + 5)$

8) $175x^3 - 100x^2 + 245x - 140$

$5(5x^2 + 7)(7x - 4)$

FACTOR GCF

$5(35x^3 - 20x^2 + 49x - 28)$
 $(5)(5x^2(7x - 4) + 7(7x - 4))$

$5(7x - 4)(5x^2 + 7)$

9) $8x^3 - 3x^2 - 32x + 12$

$(8x - 3)(x - 2)(x + 2)$

$x^2(8x - 3) - 4(8x - 3)$

$(8x - 3)(x^2 - 4)$ Keep factoring

$(8x - 3)(x - 2)(x + 2)$

10) $5x^3 - 30x^2 + 40x$

$5x(x^2 - 6x + 8)$
 $5x(x - 2)(x - 4)$

FACTOR GCF

Keep factoring