

Did you FACTOR this CA into your plans?

Name _____

Corrective Assignment 7.3

Factor completely by factoring out a GCF, then factoring the remaining trinomial.

1) $x^3 - x^2 - 2x$

2) $x^3 - 5x^2 + 4x$

3) $x^3 - 4x^2 + 4x$

4) $x^3 - 25x$

Factor each sum/difference of cubes.

5) $x^3 - 8$

6) $27x^3 - 64$

7) $x^3 + 8$

8) $27x^3 - 8$

Factor each completely by grouping.

9) $8v^3 - 5v^2 - 8v + 5$

10) $25n^3 + 15n^2 + 15n + 9$

11) $2n^3 - 6n^2 - n + 3$

12) $49v^3 - 42v^2 + 14v - 12$

Factor each quadratic form polynomial completely.

13) $x^4 + 6x^2 - 16$

14) $m^4 - 1$

$$15) x^4 - 6x^2 + 8$$

$$16) 3u^5 - 300u \quad (\text{Take out a GCF first!})$$

Solve for x.

$$17) 9x^4 - 30x^2 + 25 = 0$$

$$18) x^3 - 4x^2 - 5x + 20 = 0$$

$$19) x^3 - 25x = 0$$

$$20) x^4 + 6x^2 - 7 = 0$$

$$21) x(2x - 3)(x - 2) = 0$$

$$22) 8x^4 - 54x^2 + 81 = 0$$

Answers to Corrective Assignment

- 1) $x(x+1)(x-2)$ 2) $x(x-4)(x-1)$ 3) $x(x-2)^2$ 4) $x(x+5)(x-5)$
 5) $(x-2)(x^2+2x+4)$ 6) $(3x-4)(9x^2+12x+16)$ 7) $(x+2)(x^2-2x+4)$
 8) $(3x-2)(9x^2+6x+4)$ 9) $(v-1)(v+1)(8v-5)$ 10) $(5n^2+3)(5n+3)$
 11) $(2n^2-1)(n-3)$ 12) $(7v^2+2)(7v-6)$ 13) $(x^2-2)(x^2+8)$
 14) $(m^2+1)(m-1)(m+1)$ 15) $(x^2-2)(x-2)(x+2)$ 16) $3i(u^2+10)(u^2-10)$
 17) Factors to: $(3x^2-5)^2=0$ 18) Factors to: $(x-4)(x^2-5)=0$
 Roots: $\left\{ \frac{\sqrt{15}}{3} \text{ mult. } 2, -\frac{\sqrt{15}}{3} \text{ mult. } 2 \right\}$ Roots: $\{4, \sqrt{5}, -\sqrt{5}\}$
 19) Factors to: $x(x+5)(x-5)=0$ 20) Factors to: $(x-1)(x+1)(x^2+7)=0$
 Roots: $\{0, -5, 5\}$ Roots: $\{1, -1, i\sqrt{7}, -i\sqrt{7}\}$
 21) $\left\{ 0, \frac{3}{2}, 2 \right\}$ 22) Factors to: $(2x-3)(2x+3)(2x^2-9)=0$
 Roots: $\left\{ \frac{3}{2}, -\frac{3}{2}, \frac{3\sqrt{2}}{2}, -\frac{3\sqrt{2}}{2} \right\}$