

7.4 Solving Polynomial Equations in Factored Form DAY TWO with work



First: 7.3 Concept Check

Second: Grade WS

Third: 7.4 D2 Questions & Book work

7.3 Special Products of Polynomials Concept Check

DAY ONE: Find the product. Use the patterns... they are shortcuts! If you cannot, then at least multiply using your preferred method. You just might not have enough time to complete all problems.

$a=x$
 $b=7$
 $(x+7)^2$
 $a^2+2ab+b^2$
 $x^2+14x+49$

$a=2w$ $b=3$
 $(2w-3)^2$
 $a^2-2ab+b^2$
 $4w^2-12w+9$

$(n+4)(n-4)$
 $a=n$ $b=4$
 $(a+b)(a-b)=(a^2-b^2)$
 n^2-16

$(6+a)(6-a)$
 $a=6$ $b=a$
 $36-a^2$

DAY TWO: Use special product patterns to find the product.

5. $19 \cdot 21$ 6. 33^2

$(20-1)(20+1)$ $(30+3)(30+3)$

7. Describe and correct the error in finding the product.

$a^2-2ab+b^2$

$(x-5)^2 = x^2 - 5^2$
 $= x^2 - 25$

RED FLAG!

FOIL $(x-5)(x-5)$

$x^2 - 5x - 5x + 25 = x^2 - 10x + 25$

7.4 Solving Polynomial Equations in Factored Form DAY TWO with work

7.4 WS

In Exercises 1–12, solve the equation.

1. $x(x+5) = 0$
 $x = 0$ $x+5 = 0$
 $\frac{-5}{-5} \quad \frac{-5}{-5}$
 $x = -5$

$x = 0, -5$

2. $a(a-12) = 0$
 $a = 0$ $a-12 = 0$
 $\frac{+12}{+12} \quad \frac{+12}{+12}$
 $a = 12$

$a = 0, 12$

3. $5p(p-2) = 0$
 $5p = 0$ $p-2 = 0$
 $\frac{p}{5} \quad \frac{p-2}{+2}$
 $p = 0$ $p = 2$

$p = 0, 2$

4. $(c-2)(c+1) = 0$
 $c-2 = 0$ $c+1 = 0$
 $\frac{+2}{+2} \quad \frac{-1}{-1}$
 $c = 2$ $c = -1$

$c = -1, 2$

5. $(2b-6)(3b+18) = 0$
 $2b-6 = 0$ $3b+18 = 0$
 $\frac{+6}{+6} \quad \frac{-18}{-18}$
 $\frac{2b}{2} = \frac{6}{2}$ $\frac{3b}{3} = \frac{-18}{3}$
 $b = 3$ $b = -6$

$b = -6, 3$

6. $(3-5s)(-3+5s) = 0$
 $3-5s = 0$ $-3+5s = 0$
 $\frac{-3}{-5} \quad \frac{+3}{+5}$
 $\frac{-5s}{-5} = \frac{-3}{-5}$ $\frac{5s}{5} = \frac{3}{5}$
 $s = \frac{3}{5}$ $s = \frac{3}{5}$

$s = \frac{3}{5}$

7. $\sqrt{x-3} = \sqrt{0}$
 $x-3 = 0$
 $\frac{+3}{+3}$
 $x = 3$

$x = 3$

8. $(3d+7)(5d-6) = 0$
 $3d+7 = 0$ $5d-6 = 0$
 $\frac{-7}{-7} \quad \frac{+6}{+6}$
 $\frac{3d}{3} = \frac{-7}{3}$ $\frac{5d}{5} = \frac{6}{5}$
 $d = -\frac{7}{3}$ $d = \frac{6}{5}$

$d = -\frac{7}{3}, \frac{6}{5}$

9. $(2t+8)(2t-8) = 0$
 $2t+8 = 0$ $2t-8 = 0$
 $\frac{-8}{-8} \quad \frac{+8}{+8}$
 $\frac{2t}{2} = \frac{-8}{2}$ $\frac{2t}{2} = \frac{8}{2}$
 $t = -4$ $t = 4$

$t = \pm 4$

10. $(w+4)^2(w+1) = 0$
 $w+4 = 0$ $w+1 = 0$
 $\frac{-4}{-4} \quad \frac{-1}{-1}$
 $w = -4$ $w = -1$

$w = -4, -1$

11. $g(6-3g)(6+3g) = 0$ 12. $(4-m)(8+\frac{2}{3}m)(-2-3m) = 0$
 $g = 0$ $6-3g = 0$ $6+3g = 0$
 $\frac{-6}{-3} \quad \frac{-6}{+3}$
 $\frac{-3g}{-3} = \frac{-6}{-3}$ $\frac{3g}{3} = \frac{-6}{3}$
 $g = 2$ $g = -2$

$g = 0, \pm 2$

$4-m = 0$ $8+\frac{2}{3}m = 0$ $-2-3m = 0$
 $\frac{+4}{-1} \quad \frac{-8}{+2} \quad \frac{+2}{+3}$
 $m = -4$ $\frac{2}{3}m = \frac{-8}{3}$ $\frac{-3m}{-3} = \frac{2}{-3}$
 $m = 4$ $\frac{2m}{2} = \frac{-24}{2}$ $m = -\frac{2}{3}$
 $m = -12$

$m = -12, -\frac{2}{3}, 4$

7.4 Solving Polynomial Equations in Factored Form DAY TWO with work

Review Practice Problems:

$$6x^2 + 3x$$

GCF

$$15f^4 - 45f$$

$$3x(2x+1)$$

$$15f(f^3-3)$$

$$6x^2 + 3x \checkmark$$

$$15f^4 - 45f \checkmark$$

$$6k^2 + k = 0$$

Solve.

$$7p^2 = 21p$$

$$0 = -7p^2 + 21p$$

$$(k)(6k+1) = 0$$

$$0 = 7p(-p+3)$$

$$k=0 \quad 6k+1=0$$

$$p=0$$

$$-p+3=0$$

$$k = -\frac{1}{6}, 0$$

$$k = -\frac{1}{6}$$

$$p=0$$

$$p = -\frac{3}{-1} = 3$$

$$p = 0, 3$$

7.4 Solve Polynomial Eq's in Factored Form:

DAY 2: Assign p 381

A: 2, 6, 8, 16, 18, 20, 24, 28, 30, 34, 36, 38, 40, 44, 52

B: 2 – 16 (e), 24 – 38 (e), 40, 50, 52

C: 3 – 21, 25 – 37(o), 40, 50