

Review Multiplying Polynomials, GCF, and Zero Product Property.

Multiply and Simplify.

$$1) \quad -3x(2x^2 - 4x + 5)$$

	$2x^2$	$-4x$	5
$-3x$	$-6x^3$	$12x^2$	$-15x$

$$\boxed{-6x^3 + 12x^2 - 15x}$$

$$2) \quad (y+3)(2y-4)$$

	y	3
$2y$	$2y^2$	$6y$
-4	$-4y$	-12

$$\boxed{2y^2 + 2y - 12}$$

3) $(4 - 2p)(p^2 + 3p - 1)$

	p^2	$3p^1$	-1
4	$4p^2$	$12p$	-4
$-2p^1$	$-2p^3$	$-6p^2$	$2p$

$-2p^3 - 2p^2 + 14p - 4$

Find the GCF for each pair of monomials.

4) **18, 45** **9**

5) $36x^2, 54x^3$

$18x^2$

6)

$54xy^3, 27x^2y^2$

$27xy^2$

$\frac{54}{}$

1, 2, 3, 6, 9, 18, 27, 54

$\frac{27}{}$

1, 3, 9, 27

Write the polynomial in factored form.

7) $24a^2b - 12a^2 + 8ab^2$

$$4a(8ab - 3a + 2b^2)$$

8) $8x^3y^4 + 7x^3y^3 + 4x^5$

$$x^3(8y^4 + 7y^3 + 4x^2)$$

9) $-80mn - 72m + 72n$

$8(-10mn - 9m + 8n)$

10) $18m^4n^3 - 27m^2n^2 - 45m^2n$ $9m^2n$

$9m^2n(2m^2n^2 - 3n - 5)$

$9m^2n \cdot 2m^2n^2 = 18m^4n^3$

$9m^2n \cdot 3n = 27m^2n^2$

$9m^2n \cdot 5 = 45m^2n$

$\frac{18}{1, 2, 3, 6, 9, 18}$
 $\frac{27}{1, 3, 9, 27}$
 $\frac{45}{1, 3, 5, 9, 15, 45}$

$$11) \quad (2x-3)(x+4)=0$$

$$2x - 3 = 0$$

$$\underline{\quad +3 \quad +3 \quad}$$

$$\underline{2x = 3}$$

$$3 \quad 3$$

$$x = \frac{3}{2}$$

$$12) \quad 2x(x-3)(3x-1)(x-2)=0$$

$$\underline{2x = 0}$$

$$2 \quad 2$$

$$x = 0$$

$$x - 3 = 0$$

$$\underline{\quad +3 \quad +3 \quad}$$

$$x = 3$$

Find the area of a rectangle that has a length of $(x + 3)$ feet and a width of $(2x - 4)$ feet.

$(x + 3)$ feet



$(2x - 4)$ feet

$$2x^2 + 2x - 12$$

	x	3
$2x$	$2x^2$	$6x$
-4	$-4x$	-12