

Topic: Polynomials**Factoring using GCF**

Watch (and take notes) the lecture called Factoring using GCF.

1. Factor each polynomial. (Choose 5 to complete. Do the rest for more practice).

a. $2x^2 - 10x$

$2x(x-5)$

e. $x^2y + y^2x^2$

$x^2y(1+y)$

i. $4a + 20b$

$4(a+5b)$

b. $x^2y - 3x^2$

$x^2(y-3)$

f. $c^4d^2 + c^2d^3$

$c^2d^2(c^2+d)$

j. $6m - 12n$

$6(m-2n)$

c. $5x - 20x^2$

$5x(1-4x)$

g. $8x - 16y$

$8(x-2y)$

d. $ab^2 + 4b^2$

$b^2(a+4)$

h. $15a + 25b$

$5(3a+5b)$

2. Factor each polynomial. (Choose 5 to complete. Do the rest for more practice).

a. $3x - 6y + 12$

$3(x-2y+4)$

3.

d. $3a^2 + 12a^4$

$3a^2(1+4a^2)$

b. $4a - 8b + 16c$

$4(a-2b+4c)$

a. $13a^2 - 169a$

$13a(a-13)$

e. $14u^2 + 35u^4$

$7u^2(2+5u^2)$

c. $5 + 15n + 45m$

$5(1+3n+9m)$

b. $15a + 225a^3$

$15a(1+15a^2)$

f. $23x^5 - 46x^2$

$23x^2(x^3-2)$

d. $7 + 28a - 35b$

$7(1+4a-5b)$

c. $8x - 56x^3$

$8x(1-7x^2)$

4. Factor each polynomial. (Choose 5 to complete. Do the rest for more practice).

a. $u^3 - 3u^2 + 17u^4$

$$u^2(u - 3 + 17u^2)$$

h. $6a^3b^2 - 12a^2b^3 + 18ab$

$$6ab(a^2b - 2ab^2 + 3)$$

b. $x^4 - 3x^3 + 17x^2$

$$x^2(x^2 - 3x + 17)$$

i. $15x^2y^2 + 225x^3y^3 + 15x^4y^4$

$$15x^2y^2(1 + 15xy + x^2y^2)$$

c. $3x^3 + 3x^2 + 6x$

$$3x(x^2 + x + 2)$$

j. $13a^3b^2 + 39a^2b - 26ab^4$

$$13ab(a^2b + 3a - 2b^3)$$

d. $5a^4 - 5a^2 + 25a$

$$5a(a^3 - a + 5)$$

k. $15x^3 + 24x^2 + 36x$

$$3x(5x^2 + 8x + 12)$$

e. $x^3 + 3x^2y + 3xy$

$$x(x^2 + 3xy + y)$$

l. $7c^3 - 28c^2d + 35cd^3$

$$7c(c^2 - 4cd + 5d^3)$$

f. $x^4 + 3x^3y^2 + 12x^2y^3$

$$x^2(x^2 + 3xy^2 + 12y^3)$$

m. $a^3y^3 + a^2y^2 + ay$

$$ay(a^2y^2 + ay + 1)$$

g. $4a^4b - 16a^2b^2 + 4ab^4$

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