



Watch (and take notes) the lecture called Factoring Multistep Polynomials.

3. Factor each polynomial. (Choose 10 to complete. Do the rest for more practice).

a. $2x^2 - 18$

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

i. $125m^4 - 20n^4$

$$5(5m^2+2n^2)(5m^2-2n^2)$$

q. $64x^6 - y^6$

$$(8x^3+y^3)(8x^3-y^3)$$

b. $180m^2 - 5$

$$5(6m+1)(6m-1)$$

j. $2x^4r - 72y^4r$

$$2r(x^2+6y^2)(x^2-6y^2)$$

r. $5x^6 + 20y^4$

$$5(x^6+4y^4)$$

c. $294r^2 - 150$

$$6(7r+5)(7r-5)$$

k. $216x^4ay - 6y^5a$

$$6ay(6x^2+y^2)(6x^2-y^2)$$

s. $2n^2 + 6n - 108$

$$2(n+9)(n-6)$$

d. $150k^2 - 216$

$$6(5k+6)(5k-6)$$

l. $4x^4 - 144y^4$

$$4(x^2+6y^2)(x^2-6y^2)$$

t. $5n^2 + 10n + 20$

$$5(n+2)(n+2)$$

e. $3n^2 - 75$

$$3(n+5)(n-5)$$

m. $4x^4m - 36y^4m$

$$4m(x^2+3y^2)(x^2-3y^2)$$

u. $2k^2 + 22k + 60$

$$2(k+3)(k+10)$$

f. $24x^3 - 54x$

$$6x(2x+3)(2x-3)$$

n. $7x^4 - 28y^4$

$$7(x^2+2y^2)(x^2-2y^2)$$

v. $5x^3 - 30x^2 + 40x$

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

g. $6a^2 + 96b^2$

$$6(a^2+16b^2)$$

o. $7x^4 - 343y^4$

$$7(x^2+7y^2)(x^2-7y^2)$$

w. $2p^3 + 2p^2 - 4p$

$$2p(p+2)(p-1)$$

h. $54v^2 - 6u^2$

$$6(3v+u)(3v-u)$$

p. $16m^6 - n^6$

$$(4m^3+n^3)(4m^3-n^3)$$

x. $4v^3 - 4v^2 - 8v$

$$4v(v-2)(v+1)$$