

Factor the monomials

1.  $25x^2 = 5 \cdot 5 \cdot x \cdot x$
2.  $81a = 3 \cdot 3 \cdot 3 \cdot 3 \cdot a$
3.  $78x^3 = 2 \cdot 3 \cdot 13 \cdot x \cdot x \cdot x$

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Monomial

Factoring using the Distributive Property

Monomial -

$$\frac{30x^2 + 12x^1}{6x(5x + 2)}$$

$$15a^2b^2 - 25abc$$

$$\underline{5ab}(3b - 5c)$$

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$$18x^2y + 9x^3y^2 + 27xy^3$$

$$9xy(2x + x^2y + 3y^2)$$

①  $9x + 15 \quad 3(3x + 5)$

②  $42xy^2 - 12x^2y^2 + 3x^3y^3$   
 $3xy(14z - 4xy + x^2y^2)$

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$$\underline{3a^2b} - 6a^2b^2$$

$$\underline{3a^2b}(1 - 2b)$$

$$3a^2b(-2b)$$

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$$x + x^2y + x^3y^2$$

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

$$\underline{(3x^3 + x^2)} + (6x + 2)$$

$$\underline{x^2}(\underline{3x+1}) + \underline{2}(\underline{3x+1})$$

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

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

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$$12x + 9y = 3(4x + 3y)$$

11.  $6y^3 - 21y^2 - 4y + 14$

$$3y^2(\quad) - 2(\quad)$$

$$(\quad)(\quad)$$

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$$7b^2 + 42b$$

$$7b(b + 6)$$

$$7b^2 = 7 \cdot b \cdot b$$

$$42b = 7 \cdot 6 \cdot b$$
  

$$8s^3 + 24s^2q$$

$$8s^2(s + 3q)$$

$$8s^3 = 8 \cdot s \cdot s \cdot s$$

$$24s^2q = 8 \cdot 3 \cdot s \cdot s \cdot q$$

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$$12x + 9y = 3(4x + 3y)$$

$$12x = 2 \cdot 2 \cdot 3 \cdot x$$

$$9y = 3 \cdot 3 \cdot y$$

$$15m^2n - 27mn^2$$

$$3mn(5m - 9n)$$

$$15m^2n = 3 \cdot 5 \cdot m \cdot m \cdot n$$

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

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11.  $(6y^3 - 21y^2 - 4y + 14)$

$$3y^2(2y - 7) - 2(2y - 7)$$

$$(2y - 7)(3y^2 - 2)$$

Factoring by grouping

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