

Find the Missing Polynomial

Half - factoring!!

Work backwards to fill in the blank and find the polynomial that was multiplied by another polynomial.

$$(3x^2) \bullet \underline{\hspace{2cm}} = 12x^5$$

$$1) 10y^2 \bullet \underline{\hspace{2cm}} = 50y^6$$

$$2) -3x^2y \bullet \underline{\hspace{2cm}} = 15x^4y^4$$

$$3) (4x - 5) \bullet \underline{\hspace{2cm}} = 8x^2 - 10x$$

$$4) (6xy - 5x) \bullet \underline{\hspace{2cm}} = 18x^2y^3 - \underline{\hspace{2cm}}. \text{ (Fill in both blanks.)}$$

$$5) (4z - 2)(3z + \underline{\hspace{1cm}}) = 12z^2 + 14z - 10$$

$$6) (3y - 4)(\underline{\hspace{1cm}} + 2) = 6y^2 - 2y - 8$$

$$7) (5x - 3)(\underline{\hspace{1cm}} + 4) = -15x^2 + \underline{\hspace{1cm}} - 12 \text{ (Fill in both blanks)}$$

8)  $(10w^2 - 3w)(5w^2 + \underline{\quad}) = 50w^4 + \underline{\quad} - 6w^2$ . (Fill in both blanks)

9)  $(x - 4)(x - \underline{\quad}) = x^2 - 6x + \underline{\quad}$ . (Fill in both blanks)

10)  $(x - 9)(\underline{\quad} + \underline{\quad}) = x^2 - 18x + 81$  fill in both blanks

11)  $(x - 5)(\underline{\quad} - \underline{\quad}) = x^2 - 8x + \underline{\quad}$  Fill in all three blanks.

12)  $(x + 3)(x - \underline{\quad}) = x^2 - 9$

13)  $(x + \underline{\quad})(x + \underline{\quad}) = x^2 + 5x + 6$

14)  $(x - \underline{\quad})(x + \underline{\quad}) = x^2 - 4x - 12$