

Binomial Expansion Worksheet

Expand each binomial completely.

1 $(5 + 3y)^5$

2 $(1 + 4x)^3$

3 $(4p - 3)^5$

4 $(7m + 2n)^4$

5 $(2p^3 + 1)^5$

6 $(m^2 - 4n)^3$

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

8 $(4 + 2p)^3$

9 $(x + 3)^2$

10 $(3 + b)^4$

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Answers

1 $(5 + 3y)^5$

$$\frac{3125 + 9375y + 11250y^2 + 6750y^3 + 2025y^4 + 243y^5}{}$$

3 $(4p - 3)^5$

$$\frac{1024p^5 - 3840p^4 + 5760p^3 - 4320p^2 + 1620p - 243}{}$$

5 $(2p^3 + 1)^5$

$$\frac{32p^{15} + 80p^{12} + 80p^9 + 40p^6 + 10p^3 + 1}{}$$

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

$$\frac{y^3 - 3y^2x^2 + 3yx^4 - x^6}{}$$

9 $(x + 3)^2$

$$\frac{x^2 + 6x + 9}{}$$

2 $(1 + 4x)^3$

$$\frac{1 + 12x + 48x^2 + 64x^3}{}$$

4 $(7m + 2n)^4$

$$\frac{2401m^4 + 2744m^3n + 1176m^2n^2 + 224mn^3 + 16n^4}{}$$

6 $(m^2 - 4n)^3$

$$\frac{m^6 - 12m^4n + 48m^2n^2 - 64n^3}{}$$

8 $(4 + 2p)^3$

$$\frac{64 + 96p + 48p^2 + 8p^3}{}$$

10 $(3 + b)^4$

$$\frac{81 + 108b + 54b^2 + 12b^3 + b^4}{}$$