

Algebra 2
Binomial Expansion & Fractions

Name: _____
Period: _____

Expand.

1. $(x+3)^4$ 2. $(y+1)^6$ 3. $(2x-3)^4$
4. $(2-x)^7$ 5. $(x-2y)^4$ 6. $(2x+3y)^5$

Write the binomial expression that yields each given expression.

7. $x^4 + 20x^3 + 150x^2 + 500x + 625$ 8. $y^5 - 10y^4 + 40y^3 - 80y^2 + 80y - 32$

9. $-\frac{3}{9} + \frac{3}{4}$ 10. $\frac{4}{5} - \frac{2}{3}$ 11. $-\frac{2}{3} - \frac{3}{4} + \frac{5}{6}$ 12. $\frac{4}{5} - \frac{2}{3} - \frac{1}{10}$

13. $\frac{3}{5} \div \frac{3}{8}$ 14. $-\frac{6}{7} \div \frac{3}{8}$ 15. $1\frac{2}{7} \div \frac{1}{3}$ 17. $-\frac{1}{6} \div -2\frac{1}{3}$

18. $8 \div \frac{2}{11}$ 19. $2\frac{1}{4} \cdot -2\frac{5}{8}$ 20. $3 \cdot 1\frac{5}{6}$ 21. $2\frac{1}{3} \cdot 1\frac{2}{5}$

Solve for x .

22. $\frac{x}{6} + \frac{2x}{3} = 5$ 23. $\frac{5}{x} - \frac{5}{3x} = 2$ 24. $\frac{x}{3} - \frac{x}{4} = \frac{2}{3}$ 25. $\frac{x}{2} - 4 = \frac{x}{3}$

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