

1. Factor: $121n^2 + 100$

2. Solve: $-3(x+2)^2 - 6 = -18$

3. If $f(x) = -3(x+2)^2$ and $g(x) = x^2 - 2x - 3$, then find $-3f(2) - 2g(-1)$.

4. Use Pascal's triangle to expand: $(3x-2)^4$

5. Factor $27x^3 - 8$ completely:

6. Find all the zeros of the polynomial function:
 $3x^4 - 6x^3 + 9x^2 - 18x$

7. Simplify: $\frac{2x^2 + 13x + 20}{2x^2 + 17x + 30}$

8. Evaluate: $\frac{-3}{x-2} + \frac{17}{2x^2 - 4x}$

9. Find the coordinates of the hole from:

$$f(x) = \frac{x^2 + x - 6}{x^2 - 4}$$

10. Find the x - intercept and y - intercept from:

$$g(x) = \frac{x^2 - x - 6}{x + 6}$$