

Polynomial Review

1. The difference between

$$(3x^3 + 2x^2 - x) - (?) = x^3 - x^2 - 3x + 1.$$

Solve for (?).

2. The difference between

$$(6x^3 - 2x^2 + 4x - 1) - (?) = 3x^3 +$$

 $2x^2 - x + 3.$ Solve for (?)

Simplify

3. $(7x^3 - 2x^4) - (8x^3 - 6x^4 + 5x) + (6 - 3x^2 + 5x^4)$

4. $(6v + 6v^2) + (5v^3 - 2 + 4v^4) + (2 - 6v^4 + v^2)$

5. $(6k^2 + 2k - 3)(-4k + 3)$

6. $(-8r^2 + 8r - 4)(4r - 4)$

7. Multiply $f(x) * g(x)$ when $f(x) = x - 3$ and $g(x) = x^2 - 3x + 7.$ 8. Multiply $f(x) * g(x)$ when $f(x) = x + 2$ and $g(x) = x^2 + 5$

9. Billy is filling up a swimming pool for his end of the summer party. Billy is filling up the pool at a rate of $p(x) = x^2 + 1$. However Billy forgot to put the plug in so water is leaking out at a rate of $q(x) = 7x - 2$. Write an equation describing the amount of water in the pool at time x .

Simplify.

10. $(q^{\frac{1}{2}})^{\frac{1}{2}}$

11. $(n^{\frac{3}{3}})^{\frac{2}{3}}$

Rewrite.

12. $k^{\frac{3}{4}}$

13. $j^{\frac{3}{5}}$

Simplify.

14. $-\sqrt{5} - \sqrt{2} - \sqrt{45}$

15. $2\sqrt{8} + 3\sqrt{5} - 2\sqrt{18}$

16. $\sqrt{8x^4y^4}$

17. $\sqrt{294u^4v^3}$

18. $-2\sqrt{392n^3}$

19. $7\sqrt{175x^3}$