



Polynomials Review

A. True or false?

1) $a^2 + 16 = (a + 2)^2$

2) $2^a + 3^a = 6^{a+1}$

3) $a^0 = 1$

4) $(-x)^{12} = -x^{12}$

B. Simplify.

1) $-2^2 + 2^2 - 2^2$

2) $(2 - 3^2) - (2 - 3^2)^2 + (2 - 3^2)$

C. Evaluate for $x = 2$ and $y = -2$.

1) $x^2 - 2y^2$

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

D. Simplify.

1) $(3x + 2)(3x - 2)$

2) $(4x - 3)^2$

3) $2^3 \cdot 2^5$

4) $-(2x^2y)^2$

5) $2n^2(n + 1) - (2n)(n^2 - 3n)$

6) $(-3m^2)^2 + (3m^2)(m^2)$

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

8) $(3a^2bc)^2(3ab^2c)$

9) $\frac{15x^4y^3z^2}{30x^3y^3z^3}$

10) $(x^2 + 3x - 5) + (3x^2 - 3x - 1)$

11) $(2x^2)^2(-3xy)^2$

12) $(2a + b^2)(3ab - 2)$

13) $(-3x^2y)^2$

14) $-2(x^2 - 3x + 2)$

15) $(2x - 8)(4x + 3)$

16) $(3x - 4y) - (8y - 8z) + (x + 2z)$

17) $(3^{2m})(3^{1-2m})$

18) $\frac{(-16x^3yz)^2}{(16x^3yz)^4}$

E. Solve for the indicated variable.

1) $E = C(R + r)$, for C

2) $E = C(R + r)$, for R

F. Word problems. If the problem has no solution, give a brief explanation.

1) Two jets leave the airport simultaneously at noon. One travels west at 600 km/h , and the other east at 750 km/h . At what time will they be 3375 km apart?

2) Mack is eight years older than Zack. In five years he will be five times as old as Zack. How old is Zack now?

3) It took Mei 1 hour to drive to work. It took her only 45 minutes to drive back home, because she drove 16 km/h faster. How far from work does she live?

4) A square swimming pool is surrounded by a uniform walkway that is 1 m wide. If the area of the walkway is 52 m^2 , find the dimensions of the pool.