

Algebra 10-2: Investments & Polynomials

Warm-Up

1. Write an example of a trinomial of degree 4.
2. Write an example of a monomial of degree 2.
3. Write an example of a binomial with 2 different variables of degree 6.

$$\begin{array}{l} 3x^2y^2 + 4y + 7 \\ \hline 3x^2 \\ 4x + 3a^6 \\ \hline 4x + 3x^3a^3 \end{array}$$

$\frac{5}{x}$ Not a monomial
No variable in denominator

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Examples

1. As a New Years resolution, Bert has decided to deposit \$100 in a savings account every January 2nd. The account earns 3% interest annually. How much will his savings be worth when he makes his 4th deposit?

$$T = P(1+i)^n$$

$$100(1+0.03)^n = 100(1.03)^n$$

Total Amount

Year	Money
1	100
2	100 + 100(1.03) ¹
3	100 + 100(1.03) ¹ + 100(1.03) ²
4	100 + 100(1.03) ¹ + 100(1.03) ² + 100(1.03) ³

$$\underline{100} + \underline{103} + \underline{106.09} + \underline{109.27} = \boxed{418.36}$$

2. Janice has a savings account that has a scale factor of x ^{interest}. The first year she deposits \$800, the second year \$300, the third year \$450, and the fourth year \$775. What is her balance immediately after the 4th deposit?

Year	Money
1	800
2	300 + 800x
3	450 + 300x + 800x ²
4	775 + 450x + 300x ² + 800x ³

answer

3. Simplify $(a^2 - 12) - 1(a^2 - 4a + 2)$.

$$\cancel{a^2} - 12 - \cancel{a^2} + 4a - 2 = -14 + 4a$$

Review

$$\underbrace{3x^2 + 4x^2}_{7x^2} + 5x$$

4. Fill in the blank.

$$\underline{\underline{4x^2}} - \underline{\underline{6x}} + \underline{\underline{10}} + \underline{\underline{2x^2}} - \underline{\underline{2x}} - \underline{\underline{5}} = \underline{\underline{6x^2}} - \underline{\underline{8x}} + \underline{\underline{5}}$$

Assignment: 10-2 #'s 2, 8-19