BECA / Huson / Precalculus: Transformations First & last name:
5 March 2025 Section:

5.7a Exit Note Quiz: Operations on polynomials, write exponential functions

1. Simplify to standard form. *A.APR.1 Perform operations with polynomials*

   $(5x^3 + 3x^2 - 3x - 6) - (x^3 - x - 5)$

2. Given $A = 2x^2 + 3$ and $B = 5x - 4$, simplify $A - 2B$.

F.LE.2.ii Construct an exponential function given a description

3. A sample of radioactive material has a half-life of 12 days. Initially there are 150 milligrams of the material. Write an exponential function $A(t)$ to model the amount of material remaining in milligrams after t days.

4. A study of rodents in a certain city district finds that their population in thousands can be represented by the function $R(t) = 12(1.035)^t$ where t is the number of weeks after April 1st.

   (a) According to the model, how many rodents are there on April 1st?

   (b) Express the weekly growth rate as a percentage.

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5.7b Exit Note Quiz: Operations on polynomials, write exponential functions

1. Simplify to standard form. *A.APR.1 Perform operations with polynomials*

   $(6x^3 + 5x^2 - 2x - 9) - (x^3 - 3x - 2)$

2. Given $A = 4x^2 + 1$ and $B = 4x - 3$, simplify $A - 2B$.

F.LE.2.ii Construct an exponential function given a description

3. A sample of radioactive material has a half-life of 16 days. Initially there are 350 milligrams of the material. Write an exponential function $A(t)$ to model the amount of material remaining in milligrams after t days.

4. A study of rodents in a certain city district finds that their population in thousands can be represented by the function $R(t) = 19(1.065)^t$ where t is the number of weeks after April 1st.

   (a) According to the model, how many rodents are there on April 1st?

   (b) Express the weekly growth rate as a percentage.

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5.7c Exit Note Quiz: Operations on polynomials, write exponential functions

1. Simplify to standard form. *A.APR.1 Perform operations with polynomials*

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

2. Given $A = 3x^2 + 5$ and $B = x - 5$, simplify $A - 2B$.

F.LE.2.ii Construct an exponential function given a description

3. A sample of radioactive material has a half-life of 23 days. Initially there are 125 milligrams of the material. Write an exponential function $A(t)$ to model the amount of material remaining in milligrams after t days.

4. A study of rodents in a certain city district finds that their population in thousands can be represented by the function $R(t) = 19(1.045)^t$ where t is the number of weeks after April 1st.

   (a) According to the model, how many rodents are there on April 1st?

   (b) Express the weekly growth rate as a percentage.