Show You Know

| Ex. 1  Write each expression as a power with a single exponent.   1. b) c) d) | |
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| Ex. 2  Simplify and evaluate where possible.   1. b) c) | |
| Ex. 3  Cody invests $5000 in a fund that increases in value at the rate of 12.6% per year. The bank provides a quarterly update on the value of the investment using the formula , where q represents the number of quarterly periods and A represents the final amount of the investment. (exponent is )  a) What is the relationship between the interest rate of 12.6% and the value 1.126 in the formula?  b) What is the value of the investment after the 3rd quarter?  c) What is the value of the investment after 3 years? | |

Practice

1. Use the exponent laws to simplify each expression. Where possible, compute numerical values.

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1. Karen has saved $1500 for college. She deposits this amount into a 3-year term deposit that earns 3.25% interest per year. The formula for calculating the value of her investment is **,** where A is the amount of money at the end of the term, i is the interest rate as a decimal number, and n is the number of years the money is invested. How much will her investment be worth at the end of
   1. 3 years?
   2. 2 ½ years?
2. Phosphorus-32 has a half-life of 14 days. If 2.56 g of a sample of phosphorus-32 remain after 70 days, what was the original mass of the sample? Use the formula , where Af is the final amount, Ai is the initial amount, and t is the time in days.