**Lower Elementary:**

*Question:* Ellie breaks open her piggy bank and finds a half dollar, two quarters, two dimes, a nickel, and two pennies. How much money does Ellie have?

**Upper Elementary:**

*Question:* Packs of trading cards cost $3.50. What is the greatest number of packs of trading cards that Kaylee can buy with a $20.00 bill?

**Middle School:**

*Question:* Logan buys a box of 64 colored pencils for $24.00 and a box of 36 crayons for $12.60. Which costs more, a single colored pencil or a single crayon?

**Algebra and Up:**

*Question:* The value of a painting increases by 2% each year. If the painting is worth $1,000.00 today, how much was it worth exactly 50 years ago?

**Lower Elementary:**

*Question:* Ellie breaks open her piggy bank and finds a half dollar, two quarters, two dimes, a nickel, and two pennies. How much money does Ellie have?

*Answer:* $1.27

*Solution:* Ellie has 1 half dollar worth 50¢, 2 quarters worth 25¢ each, 2 dimes worth 10¢ each, 1 nickel worth 5¢, and 2 pennies worth 1¢ each. So, Ellie has 50¢ + 25¢ + 25¢ + 10¢ + 10¢ + 5¢ + 1¢ + 1¢ = 127¢. Since there are 100¢ in a dollar, that means Ellie has $1 and 27¢, or $1.27.

**Upper Elementary:**

*Question:* Packs of trading cards cost $3.50. What is the greatest number of packs of trading cards that Kaylee can buy with a $20.00 bill?

*Answer:* 5 packs of cards

*Solution:* First, let’s estimate how many packs of cards Kaylee can buy by rounding; $3.50 rounds up to $4.00, and $4.00 goes into $20.00 five times. Let’s try it with the actual value of a pack of cards; $3.50 × 5 = $17.50. That means that if Kaylee buys 5 packs, she’ll have $2.50 left, which isn’t enough to buy another pack of cards. So, Kaylee can buy 5 packs of cards at most.

**Middle School:**

*Question:* Logan buys a box of 64 colored pencils for $24.00 and a box of 36 crayons for $12.60. Which costs more, a single colored pencil or a single crayon?

*Answer:* a single colored pencil

*Solution:* To find the price of each pencil, we divide the total cost of all the pencils by the number of pencils. Each pencil is worth $24.00 ÷ 64 = 37½¢. Let’s compare to the price of a crayon, which is $12.60 ÷ 36 = 35¢. Since 37½¢ > 35¢, the value of a colored pencil is greater than the value of a crayon.

**Algebra and Up:**

*Question:* The value of a painting increases by 2% each year. If the painting is worth $1,000.00 today, how much was it worth exactly 50 years ago?

*Answer:* $371.53

*Solution:* We can model the increasing value of the painting with the expression ***x*** ×1.0250, wherein ***x*** is the starting value of the painting, 1.02 represents the percent increase, and 50 is the elapsed time. We know that after the 50 years, the painting is worth $1,000, so $1,000 = ***x*** ×1.0250. To solve for ***x***, we divide $1,000 ÷ 1.0250 = $371.53 (remember to round to the next cent).