**Lower Elementary:**

*Question:* Oscar sketched twice as many portraits as Polly. Polly sketched twice as many portraits as Kate. Kate sketched 4 portraits. How many portraits did Oscar sketch?

**Upper Elementary:**

*Question:* Carlo had four 16–pound containers of clay. After he sculpted a 36–pound statue of Sir Ian McKellen, how many containers worth of clay did he have left?

**Middle School:**

*Question:* Tyler shot 7 rolls of film. On each of the first 3 rolls, 16 photos turned out. Fourteen photos turned out on each of the next 4 rolls. If Tyler shoots 1 more roll of film, how many photos need to turn out for Tyler to have an average of 17 successful photos per roll?

**Algebra and Up:**

*Question:* Mia has two cans of purple paint and a can of white paint. One of the cans of purple paint is 30% red and 70% blue. The other is 50% red and 50% blue. If Mia wants 8 fluid ounces of a mixture that is 20% red, 30% blue, and 50% white, how many fluid ounces of each kind of paint does she need?

**Lower Elementary:**

*Question:* Oscar sketched twice as many portraits as Polly. Polly sketched twice as many portraits as Kate. Kate sketched 4 portraits. How many portraits did Oscar sketch?

*Answer:* 16 portraits

*Solution:* If Polly sketched twice as many as Kate, then she sketched 4 + 4 = 8 portraits. Oscar sketched twice as many as that, so he sketched 8 + 8 = 16 portraits.

**Upper Elementary:**

*Question:* Carlo had four 16–pound containers of clay. After he sculpted a 36–pound statue of Sir Ian McKellen, how many containers worth of clay did he have left?

*Answer:* 1¾ containers

*Solution:* We can find out how many containers Carlo used by dividing the amount of clay he used by the amount of clay per container. That’s 36 ÷ 16 = 2R4. Next, we can find out what fractional part of a container got used by dividing the remainder by 16 again. That’s 4 ÷ 16 = ¼. So, Carlo used 2¼ containers of clay. Now we can find that Carlo has 4 – 2¼ = 1¾ containers left.

**Middle School:**

*Question:* Tyler shot 7 rolls of film. On each of the first 3 rolls, 16 photos turned out. Fourteen photos turned out on each of the next 4 rolls. If Tyler shoots 1 more roll of film, how many photos need to turn out for Tyler to have an average of 17 successful photos per roll?

*Answer:* 32 photos

*Solution:* Tyler already has 3 × 16 + 4 × 14 = 104 good pictures. To average 17 good pictures per roll, he needs 17 × 8 = 136 pictures to turn out in total. So, Tyler needs 136 – 104 = 32 photos on the 8th roll to turn out.

**Algebra and Up:**

*Question:* Mia has two cans of purple paint and a can of white paint. One of the cans of purple paint is 30% red and 70% blue. The other is 50% red and 50% blue. If Mia wants 8 fluid ounces of a mixture that is 20% red, 30% blue, and 50% white, how many fluid ounces of each kind of paint does she need?

*Answer:* 2 fluid ounces of 30% / 70%, 2 fluid ounces of 50% / 50%, and

4 fluid ounces of white

*Solution:* Right away, we know that we need 4 ounces of white paint because 50% of 8 ounces is 4 ounces. So, next we need to find out what amounts of the two purple paints to mix together to make 4 ounces of a 40% red, 60% blue paint (we need to double the percentages because we’re only dealing with the half that isn’t white). We can see that the average of 30% red and 50% red is 40% red, so we need equal parts of the first and second paints. That’s 2 ounces of each to make 8 ounces total. Alternatively, we could use the equation 50%(4 – ***x***) + 30%***x*** = 4(40%) wherein ***x*** represents the amount of the first paint.