**Lower Elementary:**

*Question:* Ella plants a dozen seeds. Half of those seeds sprout and grow into plants. Each of those plants grows 3 flowers. How many flowers does Ella have?

**Upper Elementary:**

*Question:* A truck that weighs 4 tonnes when empty carries 1 tonne of gravel. The driver unloads 250 kilograms of gravel at a construction site. How many kilograms do the truck and the gravel weigh in total now?

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**Middle School:**

*Question:* Mason scores 40 points on his fifth of five quizzes, increasing his average score to 32 points. What was Mason’s average score after the first four quizzes?

**Algebra and Up:**

*Question:* Puppies sleep an average of 12 hours each day. Kittens sleep an average of 20 hours each day. If a puppy is 4 weeks older than a newborn kitten, then how old will the kitten be when the kitten and the puppy have gotten the same amount of sleep in total?

**Lower Elementary:**

*Question:* Ella plants a dozen seeds. Half of those seeds sprout and grow into plants. Each of those plants grows 3 flowers. How many flowers does Ella have?

*Answer:* 18 flowers

*Solution:* A dozen means 12. So, since half of Ella’s 12 planted seeds sprout, that means 6 seeds sprout and grow into plants. Each of those plants grows 3 flowers, so Ella has 3 + 3 + 3 + 3 + 3 + 3 = 18 flowers.

**Upper Elementary:**

*Question:* A truck that weighs 4 tonnes when empty carries 1 tonne of gravel. The driver unloads 250 kilograms of gravel at a construction site. How many kilograms do the truck and the gravel weigh in total now?

*Answer:* 4750 kilograms

*Solution:* A tonne is 1000 kilograms, so the truck itself weighs 1000 × 4 = 4000 kilograms. The truck starts with 1000 kilograms of gravel, so after it leaves the construction site, it has 1000 – 250 = 750 kilograms of gravel in the back. In total, that’s 4000 + 750 = 4750 kilograms.

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**Middle School:**

*Question:* Mason scores 40 points on his fifth of five quizzes, increasing his average score to 32 points. What was Mason’s average score after the first four quizzes?

*Answer:* 30 points

*Solution:* If Mason’s average point score over 5 tests was 32 points, then he must have earned 32 × 5 = 160 points in total. Before his last test, he had 160 – 40 = 120 points over 4 tests. So, his average score after 4 tests was 120 ÷ 4 = 30 points.

**Algebra and Up:**

*Question:* Puppies sleep an average of 12 hours each day. Kittens sleep an average of 20 hours each day. If a puppy is 4 weeks older than a newborn kitten, then how old will the kitten be when the kitten and the puppy have gotten the same amount of sleep in total?

*Answer:* 42 days

*Solution:* There are 28 days in 4 weeks, so the puppy has gotten 12 × 28 = 336 hours of sleep by the time the kitten is born. We want to know when the amount of sleep is equal. The kitten sleeps at a rate of 20 hours per day, and the puppy sleeps 12 per day with a 336-hour lead. We can set up the following equation and solve for ***d*** days:

20***d*** = 12***d*** + 336

***d*** = 42

The kitten will be 42 days old.