



Algebra & Operations 5th/6th

1	Gary's car has a gas mileage of 24 miles per gallon. His gas tank holds 18 gallons of gas. If Gary always refills his tank when he has 2 gallons left, how many miles does he drive in between gas refills?
2	There are 6 jacks in a snack. There are 4 snacks in a pack. There are 3 cracks in a pack and 8 cracks in a kraken. How many jacks are in 2 krakens?
3	Toby can mow the lawn in 2 hours. His sister Annie can mow the lawn in 1 hour. If they work together, how many minutes will it take them to mow the lawn?
4	What is the ninth term of an arithmetic sequence with a third term of 19 and a common difference of 4?
5	In a classroom, the ratio of boys to girls is 3: 5. Another boy joins the class, and the new ratio of boys to girls is 2: 3. How many students were originally in the class?
6	The standard creepiness rule for dating states that for a person of age n , it is inappropriate to date anyone under the age $\frac{n}{2} + 7$. What is the difference, in years, between the ages of the oldest and youngest person a 24-year-old can date?
7	After giving a difficult math test, my teacher assigns each test a letter grade. Of the class, $\frac{1}{3}$ received As, $\frac{3}{8}$ received Bs, $\frac{1}{6}$ received Cs, and the remaining 6 people received Ds or Fs. How many people are in the class?
8	Pierre and Yvonne live 5 miles apart. They agree to meet for lunch and begin walking toward each other's houses at the same time. Pierre walks at a speed of 3 miles per hour while Yvonne walks at 4 miles per hour. How many miles away from Pierre's house are they when they meet?
9	Six years ago, Sandy's age in years was two-thirds his sister's age. Currently, his age is four-fifths hers. How old, in years, is Sandy's sister?
10	A $4 \times 4 \times 4$ cube is painted red on two opposite faces, gold on two different opposite faces, and black on the remaining pair of faces. The cube is then cut into $1 \times 1 \times 1$ unit cubes. How many cubes have a side painted red and another side painted gold? (The color of the other four sides doesn't matter.)