**Lower Elementary:**



*Question:* Moana sails her boat for 30 minutes a day, 7 days per week. How many hours per week does Moana spend sailing?

**Upper Elementary:**



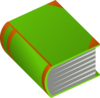
*Question:* Anna builds a snowman out of 3 big snowballs. The first snowball weighs 48 pounds. The second snowball weighs 1/2 as much as the first. The third snowball weighs 2/3 as much as the second. How much does the snowman weigh in total?

**Middle School:**



*Question:* Merida spends an afternoon shooting arrows at targets. Her ratio of hits to misses is 5:1. What percentage of Merida’s shots hit the target?

**Algebra and Up:**



*Question:* Rapunzel spends part of her morning cleaning, part of it painting, and part of it reading. The amount of time she spends cleaning is 78 minutes less than the amount of time she spends painting. The amount of time she spends painting is 15 minutes more than half the amount of time she spends reading. The amount of time she spends reading is 6 minutes more than 10 times the amount of time she spends cleaning. How much time does Rapunzel spend reading?

C:\Users\jane.adams\AppData\Local\Microsoft\Windows\INetCache\Content.Word\boat.png**Lower Elementary:**

*Question:* Moana sails her boat for 30 minutes a day, 7 days per week. How many hours per week does Moana spend sailing?

*Answer:* 31/2 hours

*Solution:* Instead of adding 30 + 30 + 30 + 30 + 30 + 30 + 30, we can solve this problem by counting by half hours. Moana spends 1/2 an hour sailing each day, so she spends 1/2, 1, 11/2, 2, 21/2, 3, 31/2 hours sailing each week.

**Upper Elementary:**

*Question:* Anna builds a snowman out of 3 big snowballs. The first snowball weighs 48 pounds. The second snowball weighs 1/2 as much as the first. The third snowball weighs 2/3 as much as the second. How much does the snowman weigh in total?

*Answer:* 88 pounds

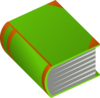
*Solution:* The first snowball weighs 48 pounds. The second snowball weighs 1/2 × 48 = 24 pounds. The third snowball weighs 2/3 × 24 = 16 pounds. So, the snowman weighs 48 + 24 + 16 = 88 pounds altogether.

**Middle School:**

*Question:* Merida spends an afternoon shooting arrows at targets. Her ratio of hits to misses is 5:1. What percentage of Merida’s shots hit the target?

*Answer:* 831/3%

*Solution:* To solve this problem, we first need the ratio of hits to total shots. The total shots in the ratio is the hits plus the misses, so the ratio of hits to total shots is 5:(5+1) = 5:6. As a fraction, this is 5/6. To convert the fraction to a percentage, we divide 5 ÷ 6 = 0.83333... = 831/3%.

**Algebra and Up:**

*Question:* Rapunzel spends part of her morning cleaning, part of it painting, and part of it reading. The amount of time she spends cleaning is 78 minutes less than the amount of time she spends painting. The amount of time she spends painting is 15 minutes more than half the amount of time she spends reading. The amount of time she spends reading is 6 minutes more than 10 times the amount of time she spends cleaning. How much time does Rapunzel spend reading?

*Answer:* 156 minutes

*Solution:* To solve this problem, we set up a system of equations:

C = P – 78

P = 1/2R + 15

R = 10C + 6

We want to solve for R, and the last equation in the system is already solved for R. So, if we plug (1/2R + 15) in for P in the first equation, we get C = 1/2R – 63. We can then plug (1/2R – 63) in for C in the third equation and find that R = 156. Rapunzel spends 156 minutes reading.