Health Science Pathway

Algebra, Big Idea 5 Practice Questions

Practice questions

1. Solve the equation $3x - 2 = x + 4$
2. Solve the equation $2(t + 3) = t + 7$
3. A delivery company charges according to the equation C = 5W + 8 where 'C' is the charge in dollars and 'W' is the weight of the item in kg. What will to cost to have a 6kg package delivered?
4. Sheldon is twice as old as Alan, who is 5 years older than Claire. If their total age is 27 years, how old is Claire?
5. The same delivery company in question 3 above, charged $63 to deliver a particular package. What was the weight of the package.

Solutions to practice questions

1. $3x - 2 = x + 4$

   $2x - 2 = 4$

   $2x \quad = 6$

   $x \quad = 3$

2. $2(t + 3) = t + 7$

   $2t + 6 = t + 7$

   $t + 6 = 7$

   $t = 1$

3. C = 5W + 8

   C = 5 x 6 + 8

   C = 38

   Therefore it would cost $38

4. Let Claire's age be C. Now we need to express the boys' ages in terms of Claire's age, based on the information given.

   Alan's age is C + 5 because Alan is 5 years older than Claire

   Sheldon is 2(C + 5) because Sheldon is twice as old as Alan

   Now the sum of their ages is 27 so we can form the equation:

   C + (C + 5) + 2(C + 5) = 27

   C + C + 5 + 2C + 10 = 27

   4C + 15 = 27

   4C \quad = 12

   C \quad = 3

   Therefore Claire is 3 years old.

5. This time we want to find the weight when the cost is given:

   C = 5 W +8

   63 = 5W +8

   5W = 55

   W = 11