The Right Mix

You need ☑ a classmate ☑ a calculator

Activity One

Jenna and Toni find that the thermostat on the hot water tank in their home is set so that water comes out of the tap at 60°C. The temperature of the cold water varies. Today it is 12°C. They use a 10 litre bucket to measure water into the bath …

1. Use both the sisters' strategies to work out the temperature of the water when:
   a. 3 buckets of cold are mixed with 1 of hot
   b. 4 cold are mixed with 1 hot
   c. 3 cold are mixed with 2 hot.
2. Discuss with a classmate:
   a. which strategy you prefer and why
   b. why it is that both strategies give the same result.

3. What would the temperature of the water in the bath be if it contained:

   a. 5 buckets of cold water and 3 of hot?

   b. 8 cold and 6 hot?

4. The girls have measured 10 buckets of water into the bath. Its temperature is now 31.2°C.

   a. How can you tell that the bath contains more cold water than hot?

   b. How many buckets of each are in the bath?

Activity Two

When it is ready to use, the bath should have about 150 litres in it – no more. Jenna and Toni like the water at different temperatures, and so does their little sister, Mary:

How many more 10 litre buckets of cold and/or hot water would the girls need to add to the bath described in **Activity One**, question **4**, so that it would suit:

   a. Mary?

   b. Jenna?

   c. Toni?