Cool Times with Heat: Problems

1. Create a 100mL cup of water at 15^{0}C, and a 100mL cup of water at 35^{0}C.
   Mix the water and measure the new temperature quickly.
   How can the temperature of the mixture be worked out?

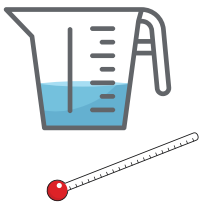
2. Create a 100mL cup of water at 15^{0}C, and a 200mL cup of water at 35^{0}C.
   Mix the water and measure the new temperature quickly.
   How can the temperature of the mixture be worked out?

3. Create a 100mL cup of water at 8^{0}C, and a 100mL cup of water at 22^{0}C.
   Mix the water and measure the new temperature quickly.
   How can the temperature of the mixture be worked out?

4. Create a 200mL cup of water at 25^{0}C, and a 50mL cup of water at 40^{0}C.
   Mix the water and measure the new temperature quickly.
   How can the temperature of the mixture be worked out?

5. Create a 100mL cup of water at 10^{0}C, a 100mL cup of water at 20^{0}C
   and a 100mL cup of water at 40^{0}C.
   Mix the water and measure the new temperature quickly.
   How can the temperature of the mixture be worked out?

6. Create a 250mL cup of water at 18^{0}C, and a 150mL cup of water at 30^{0}C.
   Mix the water and measure the new temperature quickly.
   How can the temperature of the mixture be worked out?



7. Create a 150mL cup of water from the tap.
   What is the temperature of that cold water?
   What is the temperature of water from the hot tap?
   How much water from the hot tap must you add to the cup to bring
   the temperature up to 35^{0}C?
