**Summary:**

100000+ variations. Rates.

**Question:**

a) Blake can run <EFOFEX>
id:fxe{f89dfc2e-4679-498c-b378-18d9de573ae7}
FXGP:DP-G5UYM2C
FXData:

</EFOFEX> m in <EFOFEX>
id:fxe{86be2170-0568-4875-880f-ab058adf4593}
FXGP:DP-G5UYM2C
FXData:

</EFOFEX> seconds. Express this rate in

(i) metres per second.

(ii) kilometres per hour.

b) An active ingredientis included in a children’s medicine at a concentration of <EFOFEX>
id:fxe{6636ec12-9cdc-40ba-95cf-be750c6d7b21}
FXGP:DP-F6DMY4E
FXData:

</EFOFEX>. The dosage for a baby (3-6 months) is <EFOFEX>
id:fxe{39ff43d1-17fc-4c29-ad5a-ab1104c2b01d}
FXGP:DP-F6DMY4E
FXData:

</EFOFEX> and the dosage for a child (9-12 years of age) is <EFOFEX>
id:fxe{06dc45e3-5a0c-47ec-8cc6-793e1b40270a}
FXGP:DP-F6DMY4E
FXData:

</EFOFEX>.

1. How much of the active ingredient would a baby receive?
2. How much of the active ingredient would a child receive?
3. A physician has calculated that a toddler would need to receive <EFOFEX>
   id:fxe{ed6c8b03-409e-40cd-abce-f85c97c7d715}
   FXGP:DP-F6DMY4E
   FXData:

   </EFOFEX> of the active ingredient to be effective. What dosage (to the nearest mL) would the physician need to prescribe for the toddler?

c) A car travels at <EFOFEX>
id:fxe{b303dc92-ebcd-47a7-9635-3e9b04dc1139}
FXGP:DP-UN9C7G6
FXData:

</EFOFEX> km/h for <EFOFEX>
id:fxe{d5509be3-44ac-436e-920d-6f9149cfde4c}
FXGP:DP-UN9C7G6
FXData:

</EFOFEX> km and then changes its speed to <EFOFEX>
id:fxe{3e236d68-decf-4bb0-91c7-1d590d3bec0e}
FXGP:DP-UN9C7G6
FXData:

</EFOFEX> km/h for the next <EFOFEX>
id:fxe{f4562a9f-b80a-4cc4-bc83-bc3585c21a95}
FXGP:DP-UN9C7G6
FXData:

</EFOFEX> kilometres. What is the average speed for the whole journey?

**Solution:**

a) i) <EFOFEX>
id:fxe{328cea36-f045-4446-8e35-f6ab3b5e59c1}
FXGP:DP-G5UYM2C
FXData:

</EFOFEX>

ii) <EFOFEX>
id:fxe{5dbe2618-d656-48e9-a7fe-6b3efd524ef0}
FXGP:DP-G5UYM2C
FXData:

</EFOFEX>

b) i) <EFOFEX>
id:fxe{efe24277-25bc-48df-a6e8-6c7abb39de43}
FXGP:DP-F6DMY4E
FXData:

</EFOFEX>

ii) <EFOFEX>
id:fxe{0c25877f-8a21-4481-814d-15e0690d81fb}
FXGP:DP-F6DMY4E
FXData:

</EFOFEX>

iii) <EFOFEX>
id:fxe{049541f7-7c11-42eb-afd9-41ec2b92ec61}
FXGP:DP-F6DMY4E
FXData:

</EFOFEX>

c) <EFOFEX>
id:fxe{48380ccf-ff28-44cd-b216-affb9da5eb89}
FXGP:DP-UN9C7G6
FXData:

</EFOFEX>