Compound Measures Revision
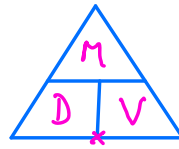
Speed = $\dfrac{\text{Distance}}{\text{Time}}$

Time = $\dfrac{\text{Distance}}{\text{Speed}}$

Distance = Speed × Time

Density = $\dfrac{\text{Mass}}{\text{Volume}}$

Volume = $\dfrac{\text{Mass}}{\text{Density}}$

Mass = Density × Volume

John drives from A to B at 50 mph for 2 hrs. He then drives from B to C a distance of 120 miles in 3hrs. He then drives from C to D a distance of 80 miles at 20 mph.

What was his average speed for whole journey from A to D

	Speed	Time	Distance
A - B	50 mph	2 hrs	100 miles
B - C		3 hrs	120 miles
C - D	20 mph	4 hrs	80 miles
		9 hrs	300 miles

Average Speed = $\dfrac{\text{Total Distance}}{\text{Total Time}}$ = $\dfrac{300}{9}$ = 33.3 mph

Compound A has density 6 g/cm^3

Compound B has density 8 g/cm^3

50g of A are mixed with 120g of B to make a compound C

What is the density of C?

Density of C $= \dfrac{\text{Total Mass}}{\text{Total Volume}}$

$= \dfrac{50 + 120}{23.33} = 7.29 \text{ g/cm}^3$

	Density	Mass	Vol	Vol
A	6 g/cm^3	50g	$50/6$	8·33
B	8 g/cm^3	120g	$120/8$	15.00
		170g		23.33 cm³