Name: _____ 5-a-day Higher Plus

9th March

Corbettmaths

The length of the base of a triangle and its perpendicular height are:

base: $\frac{x+5}{10}$ cm

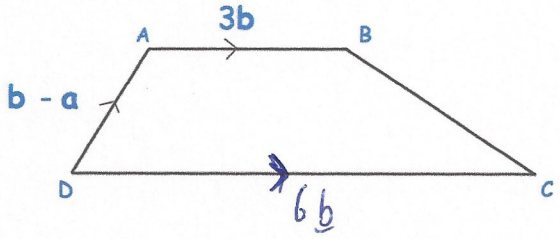
height: $\frac{x-1}{4}$ cm

Find an expression for the area of the triangle.

$\frac{1}{2} \times \frac{x+5}{10} \times \frac{x-1}{4}$

$\frac{(x+5)(x-1)}{80}$

ABCD is a trapezium



AB and DC are parallel.
DC = 2AB

Write down theses vectors in terms of **a** and **b**

$\overrightarrow{DC}$

$6\underline{b}$

$\overrightarrow{BC} = \overrightarrow{BA} + \overrightarrow{AD} + \overrightarrow{DC}$

$= -3\underline{b} + \underline{a} - \underline{b} + 6\underline{b}$

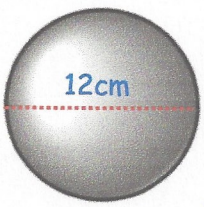
$= 2\underline{b} + \underline{a}$

A solid sphere has a diameter of 12cm.
The sphere is made from glass.
The density of the glass is 4.12g/cm

Find the mass of the glass sphere.

$V = \frac{4}{3} \times \pi \times 6^3$

$= 904.7786842$



$m = d \times v$

$= 4.12 \times 904.77...$

$= 3727.688$ g

$= 3.727$kg

Prove the product of two odd numbers is always odd.

$(2n+1)(2m+1)$

$4mn + 2n + 2m + 1$

$2(2mn + n + m) + 1$

even + 1 = odd