



ÉCOLE GLOBALE

INTERNATIONAL GIRLS' SCHOOL
Dehradun

HOLIDAY HOMEWORK - CLASS IX A (Maths)

WORKSHEET 3

1.

- (a) Alfonso has \$75 to spend on the internet.
He spends some of the money on music, films and books.

- (i) The money he spends on music, films and books is in the ratio

$$\text{music : films : books} = 5 : 3 : 7.$$

He spends \$16.50 on music.

Calculate the **total** amount he spends on music, films and books.

- (ii) Find this total amount as a percentage of the \$75.

- (b) The download times for the music, films and books are in the ratio

$$\text{music : films : books} = 2 : 9 : 1.$$

The **total** download time is 3 hours and 33 minutes.

Calculate the download time for the films.

Give your answer in hours, minutes and seconds.

- (c) The cost of \$16.50 for the music was a reduction of 12% on the original cost.
Calculate the original cost of the music.

2.

- (a) Solve the inequality.

$$7x - 5 > 3(2 - 5x)$$

- (b) (i) Factorise completely.

$$pq - 2q - 8 + 4p$$

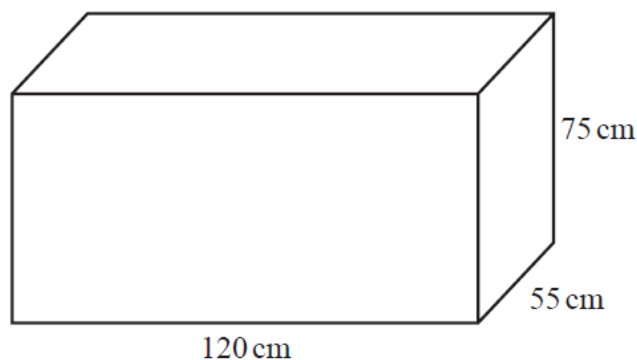
- (ii) Factorise.

$$9p^2 - 25$$

- (c) Solve this equation by factorising.

$$5x^2 + x - 18 = 0$$

3.

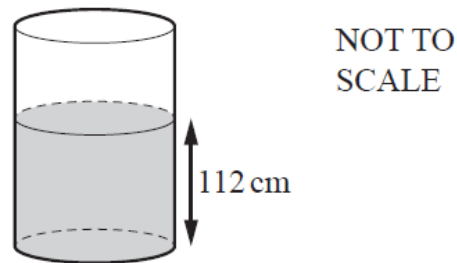


NOT TO
SCALE

The diagram shows a water tank in the shape of a cuboid measuring 120 cm by 55 cm by 75 cm.
The tank is filled completely with water.

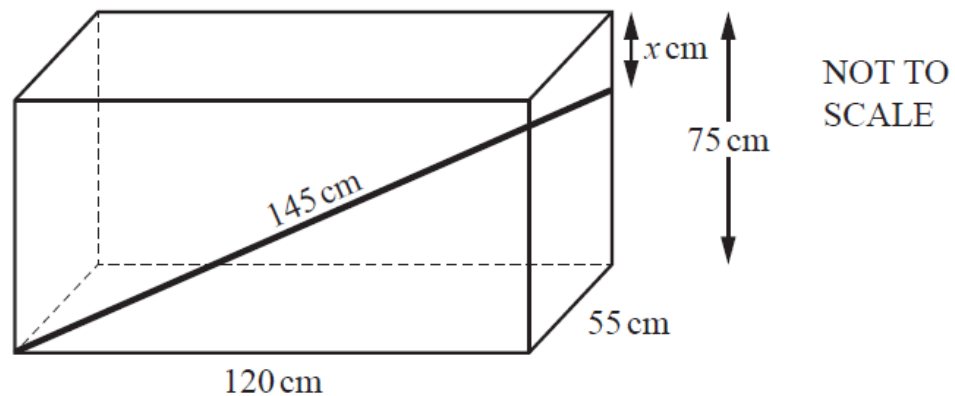
- (a) Show that the capacity of the water tank is 495 litres.

- (b) (i) The water from the tank flows into an empty cylinder at a uniform rate of 750 millilitres per second.
 Calculate the length of time, in minutes, for the water to be completely emptied from the tank.
- (ii) When the tank is completely empty, the height of the water in the cylinder is 112 cm.



Calculate the radius of the cylinder.

(c)



A rod of length 145 cm is placed inside the water tank.
 One end of the rod is in the bottom corner of the tank as shown.
 The other end of the rod is x cm below the top corner of the tank as shown.

Calculate the value of x .

- (d) Calculate the angle that the rod makes with the base of the tank.

4.

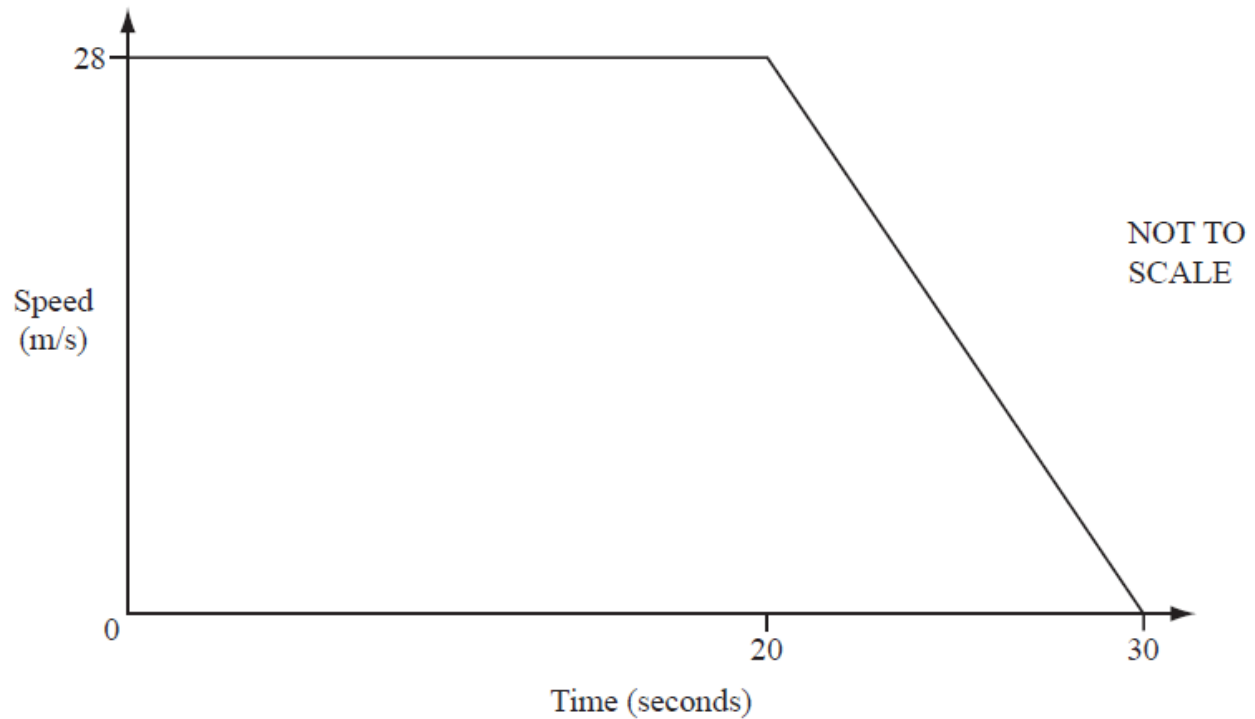
- (a) (i) Factorise completely the expression $4x^2 - 18x - 10$.
- (ii) Solve $4x^2 - 18x - 10 = 0$.

(b) Solve the equation $2x^2 - 7x - 10 = 0$.

Show all your working and give your answers correct to two decimal places.

(c) Write $\frac{6}{3x-1} - \frac{2}{x-2}$ as a single fraction in its simplest form.

5.



The diagram shows the speed-time graph of a car.

It travels at 28 m/s for 20 seconds and then decelerates until it stops after a further 10 seconds.

(a) Calculate the deceleration of the car.

(b) Calculate the distance travelled during the 30 seconds.

