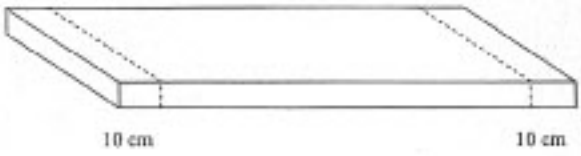
TEST UE-001
1-08-06

Name R. Reiss

QUESTION 26

You will be able to spend more time with 9 year-old Paul by helping his mother erect some shelves in her home. If each shelf is 2 meters long and the combined length of the objects to be placed on them is 5 meters, how many shelves should you erect? The closest any object should come to the edge is 10 cm .



ANSWER

Usable space = 2m - 10cm - 10cm
= 180 cm

Combined ℓ of objects = 5m
= 500cm

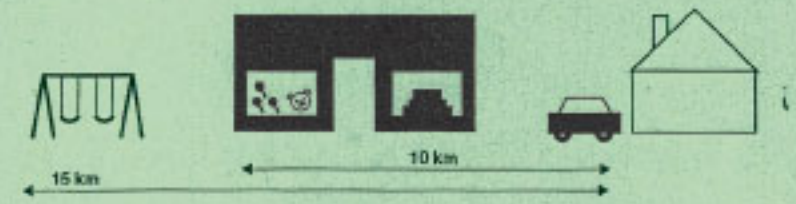
shelves needed = $\frac{500\text{cm}}{180\text{ cm}}$
= 2.8
= 3 shelves
∴ 3 shelves are needed

TEST UE-001
1-08-06

Name G Mainey

QUESTION 22

From your home it takes 7 minutes to drive to your local store that is 10 kilometers away. The park Jake likes to play at is 15 kilometers away. How much faster will you have to drive so that no one suspects that you've been at the park?



ANSWER

$$\text{Speed}_{\text{(shop to home)}} = \frac{\text{Distance}}{\text{Time}} \qquad \text{Speed}_{\text{(park to home)}} = \frac{\text{Distance}}{\text{Time}}$$

$$= \frac{10\text{ km}}{7\text{ min}} \times \frac{60\text{ min}}{1\text{ hr}} \qquad = \frac{15\text{ km}}{7\text{ min}} \times \frac{60\text{ min}}{1\text{ hr}}$$

$$= 85.7\text{ km/hr} \qquad = 128.5\text{ km/hr}$$

$128.5\text{ km/hr} - 85.7\text{ km/hr} = 42.8\text{ km/hr}$

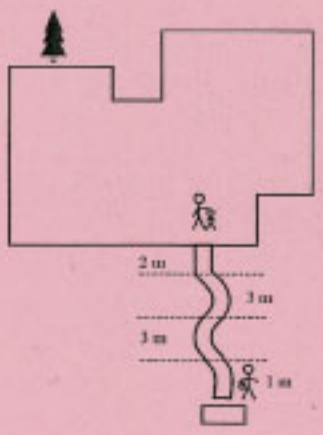
∴ Have to drive 42.8 km/h faster so no one suspects

TEST UE-001
1-08-06

Name B. Cohen

QUESTION 43

You are looking after Sally in the home drawn below. Suddenly you hear Sally's mother arrive home early from work. If Sally's mother always parks at the head of the driveway, how long will it be before she enters the house? Sally's mother walks at 3km/h.



ANSWER

Length of driveway
$= A + B + C + D$
$= (2m) + (\pi r) + (\pi r) + (3m)$
$= (2m) + (1.5 \times 3.14) + (1.5 \times 3.14) + (3m)$
$= 12.42m$

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

$\frac{3\,km}{hr} = \frac{12.42}{\text{Time}}$

$\frac{3000}{3600} = \frac{12.42}{\text{Time}}$

$\text{Time} = 14.9\,sec.$

∴ It will take her 14.9 sec