

# Trial Test

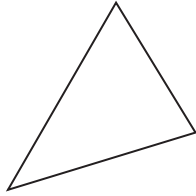
## PAPER 1 (BOOKLET A)

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, choose the correct answer and write its number (1, 2, 3 or 4) in the brackets provided. [20 m]

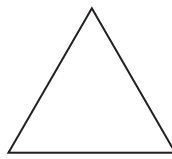
- The ratio of Lawrence's marks to Daniel's marks in a science test is 2 : 3. If Lawrence and Daniel have an average of 75 marks, how many marks does Daniel score in the science test?  
(1) 60                      (2) 70                      (3) 90                      (4) 150                      (                      )
- 1250 celebrities attended an annual music award. 850 of them were women. What percentage of the celebrities were men?  
(1) 25%                      (2) 32%                      (3) 40%                      (4) 68%                      (                      )
- The volume of a cube is  $1728 \text{ cm}^3$ . What is the length of each side of the cube?  
(1) 8 cm                      (2) 12 cm                      (3) 14 cm                      (4) 16 cm                      (                      )
- During a 20% storewide sale, Dorothy bought a bottle of perfume for \$56.60. What was the original price of the bottle of perfume?  
(1) \$67.92                      (2) \$70.75                      (3) \$85.20                      (4) \$101.88                      (                      )
- Which of the following is an equivalent ratio of 4 : 5?  
(1) 2 : 4                      (2) 8 : 12                      (3) 20 : 25                      (4) 36 : 40                      (                      )
- Find the area of a triangle whose height and base are 25 cm and 10 cm respectively.  
(1)  $125 \text{ cm}^2$     (3)  $500 \text{ cm}^2$   
(2)  $250 \text{ cm}^2$     (4)  $750 \text{ cm}^2$     (                      )
- What is 68% of 950 g?  
(1) 304 g    (3) 1254 g  
(2) 646 g    (4) 1596 g    (                      )

8. Which of the following is **not** an acute-angled triangle?

(1)



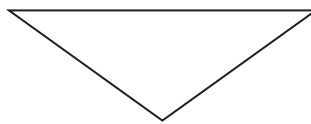
(3)



(2)



(4)



( )

9. Find the sum of  $6\frac{2}{3}$  and  $1\frac{1}{9}$ .

(1)  $5\frac{5}{9}$

(3)  $7\frac{7}{9}$

(2)  $7\frac{2}{9}$

(4)  $7\frac{11}{27}$

( )

10.  $40.815 \times 100 =$

(1) 4.0815

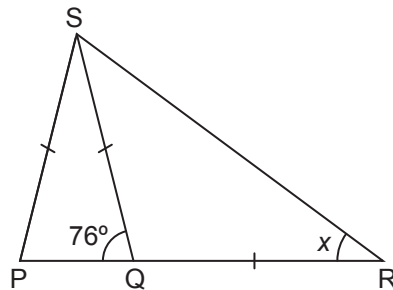
(3) 4081.5

(2) 408.15

(4) 40 815

( )

11. In the figure below,  $PS = QS = QR$ . Find the value of  $\angle x$ .



(1)  $28^\circ$

(3)  $76^\circ$

(2)  $38^\circ$

(4)  $104^\circ$

( )



17. Express 240 cm as a fraction of 7 m in its simplest form.

Ans: \_\_\_\_\_

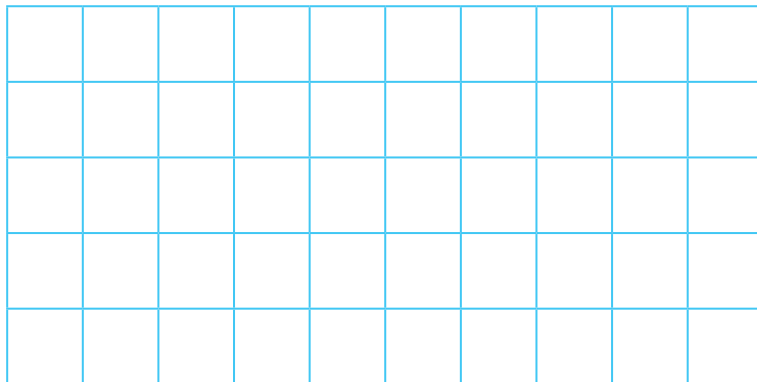
18. Leonard and his two cousins shared a pack of chocolate candies in the ratio 3 : 5 : 9. Leonard received 27 pieces. How many pieces of chocolate candies were in the pack?

Ans: \_\_\_\_\_ pieces

19. Louise puts \$3600 in her savings account. If she receives \$36 as interest after a year, what percentage of interest does the bank pay?

Ans: \_\_\_\_\_%

20. Draw an isosceles triangle in the grid below.



21. What is the value of  $(12 \times 7) \div 4 + 35 - 13$ ?

Ans: \_\_\_\_\_

**1 Singapore Dollar can be exchanged for 0.70 United States Dollar. Use this information to answer questions 22 and 23.**

**22.** How much United States Dollars can 12 Singapore Dollars be exchanged for?

Ans: \$\_\_\_\_\_ USD

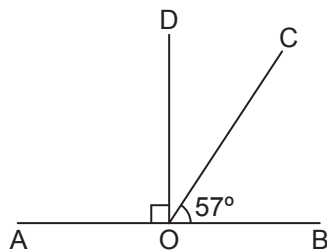
**23.** How much Singapore Dollars can 12 United States Dollars be exchanged for? Give your answer to two decimal places.

Ans: \$\_\_\_\_\_ SGD

**24.** Angie, Ivy and Chloe each have a piece of ribbon. The length of Angie's ribbon to Ivy's ribbon to Chloe's ribbon is in the ratio 5 : 6 : 9. If the total length of the three pieces of ribbon is 1 m, what is the length of Chloe's ribbon?

Ans: \_\_\_\_\_ cm

**25.** The figure is not drawn to scale. AOB is a straight line. Find  $\angle DOC$ .



Ans: \_\_\_\_\_ °

26. 5 villagers can dig a well in two days. The villagers need to dig 3 identical wells. If the villagers need to dig 3 wells within a day, how many villagers are needed?

Ans: \_\_\_\_\_ villagers

27. It takes 3 minutes to cook a hard-boiled egg. How long will it take to cook 8 hard-boiled eggs? (Assume they are cooked one after another.)

Ans: \_\_\_\_\_ min

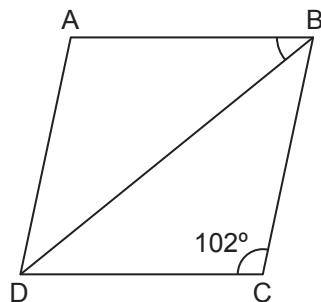
28. A rectangular container measuring 12 cm by 10 cm by 6 cm is  $\frac{3}{4}$  filled with water. If there is a small hole at the base of the container and water is leaking at a rate of 4 ml per minute, how long does it take for the container to be completely empty?

Ans: \_\_\_\_\_ min

29. The volume of a cube is  $729 \text{ cm}^3$ . Find the length of the cube.

Ans: \_\_\_\_\_ cm

30. In the figure below, ABCD is a rhombus. Find  $\angle ABD$ .



Ans: \_\_\_\_\_<sup>o</sup>

## PAPER 2



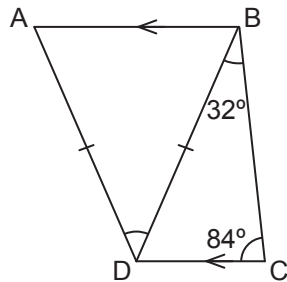
Questions 1 to 5 carry 2 mark each. Show your working clearly in the space given. Write your answers on the lines provided. For questions that require units, these units are provided. Give your answers in the stated units.

[10 m]

1. 80% of a container is filled with fruit juice. If 1250 ml is needed to fill the container to the brim, what is the capacity of the container?

Ans: \_\_\_\_\_ l

2. In the figure below, ABD is an isosceles triangle and AB is parallel to DC. Find the value of  $\angle ADB$ .



Ans: \_\_\_\_\_ °

3. The ratio of a chef's daily wage to a waitress' daily wage is 5 : 2. If their total daily wage is \$105, find the difference in their daily wages.

Ans: \$ \_\_\_\_\_

4. Miss Smith went to buy some bread for a school camp. Two loaves of bread cost \$5. If she had spent a total of \$110, how many loaves of bread did she buy?

Ans: \_\_\_\_\_ loaves

5. An aeroplane can travel 600 km in 48 min. At this rate, how far can the aeroplane travel per minute?

Ans: \_\_\_\_\_ km



For questions 6 to 18, show your working clearly in the space and write your answers on the lines provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. [50 m]

6. Gloria spent  $\frac{3}{5}$  of her money on a pair of roller skates and 20% of the remaining amount on a pair of socks.

(a) What percentage of her money had she left? [2]

(b) If she had spent \$52 more on the pair of roller skates than the pair of socks, how much money did she have at first? [1]

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_

7. A container, measuring 12 cm by 14 cm by 9 cm, is filled with water to the brim. The water is then poured into cubic tanks of sides 3 cm. How many such cubic tanks can be filled with water completely? [3]

Ans: \_\_\_\_\_



8. A rectangular tank measuring 60 cm by 70 cm by 80 cm, is half-filled with water. If the water is emptied from a tap attached to the tank at a rate of 12 litres per minute, how long will it take to empty the tank completely?  
[1 l = 1000 cm<sup>3</sup>] [3]

Ans: \_\_\_\_\_

9. A team of basketball players drinks a dozen bottles of mineral water every training session. Each bottle contains 1.25 l of mineral water.

(a) How much water does the team of basketball players drink every session? [2]

(b) How much mineral water does the team of basketball players need for 15 such training sessions? [1]

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_

10. The average of 5 consecutive numbers is 32.

(a) Find the highest number.

[2]

(b) Find the product of the first two numbers.

[2]

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_

11. The amount of money Jill had was  $\frac{7}{8}$  the amount of money Jack had. After giving \$48 to Jack, Jill's money was  $\frac{4}{11}$  of Jack's money. How much money did Jack have at first? [4]

Ans: \_\_\_\_\_

12. During a Christmas sale, Mr Collins paid \$3500 for a diamond ring. The diamond ring was sold at a discount of 20%.  
(a) What was the original price of the diamond ring? [2]

- (b) Mr Collins bought a pair of earrings at a discounted price of \$2500. An additional 5% discount is given on both items from the discounted prices. How much did Mr Collins pay altogether? [2]

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_

**13.** Mr Baker works as a freelance designer. He is paid \$108 for every 2 hours.

(a) For a big project, Mr Baker has to work 7 hours daily for 35 days. How much does he earn for working on this project? [2]

(b) If Mr Baker gives 25% of his pay from this project to his parents and another 28% of the remaining amount to his wife, how much has he left? [2]

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_

14. (a) Draw a square ABCD of sides 5.6 cm.

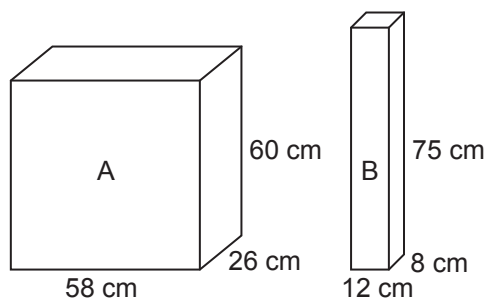
[2]

(b) Draw a parallelogram EFGH in which  $EF = 4.4$  cm,  $FG = 5.4$  cm and  $\angle EFG = 70^\circ$

[2]

15. Tank A is filled with water to a depth of 40 cm. The water is then poured into Tank B to its brim. How many litres of water is left in Tank A? [ $1 \text{ l} = 1000 \text{ cm}^3$ ]

[4]



Ans: \_\_\_\_\_

16. My birthday is in January. The date of my birthday is 2 digits. The digits of the number are both even. The difference between the two digits is 4. The difference between the reversed and the original numbers of my birthday is 36. When is my birthday? [4]

Ans: \_\_\_\_\_

17. 3 identical woks and 5 identical pots cost \$143. Mr Jacobs sold 6 such woks and 5 such pots at \$191.
- (a) How much was each wok? [2]

- (b) If a customer bought a dozen pots, Mr Jacob would give a 20% discount.  
How much did the customer pay? [3]

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_

18. A rectangular container measures 15 m long, 9 m wide and 6 m high. A tap is turned on at a rate of  $5 \text{ m}^3$  per minute. At the same time, the water in the container is released through another tap at a rate of  $2 \text{ m}^3$  per minute. What will be the water level in the container after 45 minutes? [5]

Ans: \_\_\_\_\_

Solutions:

# Trial Test

**Paper 1**

1. (3)

$$\begin{aligned} 75 \times 2 &= 150 \\ 5 \text{ units} &\rightarrow 150 \\ 1 \text{ unit} &\rightarrow 150 \div 5 = 30 \\ 3 \text{ units} &\rightarrow 30 \times 3 = 90 \end{aligned}$$

2. (2)

$$\begin{aligned} 1250 - 850 &= 400 \\ \frac{400}{1250} \times 100\% &= 32\% \end{aligned}$$

3. (2)

$$12 \text{ cm} \times 12 \text{ cm} \times 12 \text{ cm} = 1728 \text{ cm}^3$$

4. (2)

$$\begin{aligned} 80\% &\rightarrow \$56.60 \\ 100\% &\rightarrow \frac{100}{80} \times \$56.60 \\ &= \$70.75 \end{aligned}$$

5. (3)

$$\begin{aligned} 4 : 5 \\ 20 : 25 \end{aligned}$$

↖ ×5 ↘

6. (1)

$$\frac{1}{2} \times 25 \text{ cm} \times 10 \text{ cm} = 125 \text{ cm}^2$$

7. (2)

$$\frac{68}{100} \times 950 \text{ g} = 646 \text{ g}$$

8. (4)

9. (3)

$$\begin{aligned} 6\frac{2}{3} + 1\frac{1}{9} &= 6\frac{6}{9} + 1\frac{1}{9} \\ &= 7\frac{7}{9} \end{aligned}$$

10. (3)

$$40.815 \times 100 = 4081.5$$

11. (2)

$$\begin{aligned} \angle \text{SQR} &= 180^\circ - 76^\circ = 104^\circ \\ 180^\circ - 104^\circ &= 76^\circ \\ \angle \text{QRS} &= 76^\circ \div 2 = 38^\circ \end{aligned}$$

12. (2)

$$\begin{aligned} 12 \text{ cm} \times 4 \text{ cm} &= 48 \text{ cm}^2 \\ 240 \text{ cm}^3 \div 48 \text{ cm}^2 &= 5 \text{ cm} \end{aligned}$$

13. (1)

$$2\,900 \times 85 = 246\,500$$

14. (2)

$$\begin{aligned} 15 \text{ min} &\rightarrow 10 \text{ nails} \\ 60 \text{ min} &\rightarrow \frac{60}{15} \times 10 = 40 \text{ nails} \end{aligned}$$

15. (2)

$$\begin{aligned} \text{next day} &\rightarrow 25 + 7 = 32 \text{ min} \\ \text{both days} &\rightarrow 25 + 32 = 57 \text{ min} \\ 57 \div 2 &= 28.5 \text{ min} \end{aligned}$$

16. 18

$$9 \times 2 \text{ m} = 18 \text{ m}$$

17.  $\frac{12}{35}$

$$7 \text{ m} = 700 \text{ cm}$$

$$\frac{240}{700} = \frac{12}{35}$$

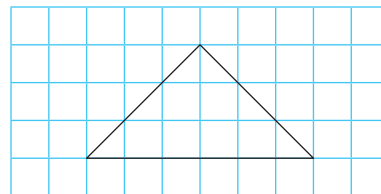
18. 153

$$\begin{aligned} 3 \text{ units} &\rightarrow 27 \\ 1 \text{ unit} &\rightarrow 27 \div 3 = 9 \\ 3 + 5 + 9 &= 17 \\ 17 \text{ units} &\rightarrow 9 \times 17 = 153 \end{aligned}$$

19. 1

$$\frac{36}{3600} \times 100\% = 1\%$$

20.



21. 43

$$\begin{aligned} (12 \times 7) \div 4 + 35 - 13 &= 84 \div 4 + 35 - 13 \\ &= 21 + 35 - 13 \\ &= 43 \end{aligned}$$

22. 8.40

$$\begin{aligned} \$1 \text{ SGD} &\rightarrow \$0.70 \text{ USD} \\ \$12 \text{ SGD} &\rightarrow 12 \times 0.7 = \$8.40 \text{ USD} \end{aligned}$$



23. **17.14**  
 $\$0.70 \text{ USD} \rightarrow \$1 \text{ SGD}$   
 $\$1 \text{ USD} \rightarrow \$\frac{1}{0.7} \text{ SGD}$   
 $\$12 \text{ USD} \rightarrow 12 \times \frac{1}{0.7} = \$17.14 \text{ SGD}$
24. **45**  
 $1 \text{ m} = 100 \text{ cm}$   
 $5 + 6 + 9 = 20$   
 $20 \text{ units} \rightarrow 100 \text{ cm}$   
 $1 \text{ unit} \rightarrow 100 \text{ cm} \div 20 = 5 \text{ cm}$   
 $9 \text{ units} \rightarrow 5 \text{ cm} \times 9 = 45 \text{ cm}$
25. **33**  
 $90^\circ - 57^\circ = 33^\circ$
26. **30**  
 $5 \times 2 = 10$  (villagers to dig a well in 1 day)  
 $10 \times 3 = 30$  (villagers to dig 3 wells in 1 day)

27. **24**  
 $3 \text{ min} \times 8 = 24 \text{ min}$
28. **135**  
 $12 \times 10 \times 6 = 720 \text{ cm}^3$   
 $\frac{3}{4} \times 720 = 540 \text{ cm}^3$   
 $= 540 \text{ m}^3$   
 $540 \div 4 = 135 \text{ min}$
29. **9 cm**  
 $9 \text{ cm} \times 9 \text{ cm} \times 9 \text{ cm} = 729 \text{ cm}^3$
30. **39°**  
 $\angle DAB = \angle BCD = 102^\circ$   
 $180^\circ - 102^\circ = 78^\circ$   
 $78^\circ \div 2 = 39^\circ$

### Paper 2

1. **6.25**  
 $20\% \rightarrow 1250 \text{ m}^3$   
 $100\% \rightarrow \frac{100}{20} \times 1250 \text{ m}^3 = 6250 \text{ m}^3$   
 $= 6.25 \text{ l}$
2. **52**  
 $\angle BDC = 180^\circ - 32^\circ - 84^\circ$   
 $= 64^\circ$   
 $\angle BDC = \angle DAB = \angle DBA = 64^\circ$   
 $\angle ADB = 180^\circ - 64^\circ - 64^\circ = 52^\circ$
3. **45**  
 $7 \text{ units} \rightarrow \$105$   
 $1 \text{ unit} \rightarrow \$105 \div 7 = \$15$   
 $5 - 2 = 3$   
 $3 \text{ units} \rightarrow \$15 \times 3 = \$45$
4. **44**  
 $\$110 \div \$5 = 22 \text{ sets of } 2$   
 $22 \times 2 = 44$
5. **12.5**  
 $48 \text{ min} \rightarrow 600 \text{ km}$   
 $1 \text{ min} \rightarrow 600 \div 48 = 12.5 \text{ km}$

6. (a) **32%**  
 $\frac{3}{5} \times 100\% = 60\%$   
 Gloria spent 60% of her money on a pair of roller skates.  
 $\frac{20}{100} \times 40\% = 8\%$   
 $40\% - 8\% = 32\%$   
 She had 32% left.
- (b) **\$100**  
 $60\% - 8\% = 52\%$   
 $52\% \rightarrow \$52$   
 $100\% \rightarrow \$100$   
 She had \$100 at first.

7. **56 cubic tanks**  
 $12 \text{ cm} \times 14 \text{ cm} \times 9 \text{ cm} = 1512 \text{ cm}^3$   
 $3 \text{ cm} \times 3 \text{ cm} \times 3 \text{ cm} = 27 \text{ cm}^3$   
 $1512 \text{ cm}^3 \div 27 \text{ cm}^3 = 56$   
 56 cubic tanks can be filled with water completely.
8. **14 min**  
 $60 \text{ cm} \times 70 \text{ cm} \times 80 \text{ cm} = 336\,000 \text{ cm}^3$   
 $= 336 \text{ l}$   
 $336 \text{ l} \div 2 = 168 \text{ l}$   
 $168 \text{ l} \div 12 \text{ l} = 14$   
 It takes 14 min to empty the water in the tank.

9. (a) **15 l**  
 $1.25 \text{ l} \times 12 = 15 \text{ l}$   
 The team drinks 15 l of water.
- (b) **225 l**  
 $15 \text{ l} \times 15 = 225 \text{ l}$   
 The team of basketball players need 225 l of water.
10. (a) **34**  
 $5 \times 32 = 160$   
 $30 + 31 + 32 + 33 + 34 = 160$   
 The highest number is 34.
- (b) **930**  
 $30 \times 31 = 930$   
 The product of the first two numbers is 930.

11. **\$128**



- $3 \text{ units} \rightarrow \$48$   
 $1 \text{ unit} \rightarrow \$48 \div 3 = \$16$   
 $8 \text{ units} \rightarrow \$16 \times 8 = \$128$   
 Jack had \$128 at first.

**12. (a) \$4375**

$$80\% \rightarrow \$3500$$

$$100\% \rightarrow \frac{100}{80} \times \$3500 = \$4375$$

The original price of the diamond ring was \$4375.

**(b) \$5656.25**

$$\frac{95}{100} \times \$3500 = \$3325$$

$$\frac{95}{100} \times \$2500 = \$2375$$

$$\$3325 + \$2375 = \$5700$$

Mr Collins paid \$5700 altogether.

**13. (a) \$13 230**

$$2 \text{ hours} \rightarrow \$108$$

$$1 \text{ hour} \rightarrow \$108 \div 2 = \$54$$

$$7 \text{ hours} \rightarrow \$54 \times 7 = \$378$$

He is paid \$378 daily.

$$\$378 \times 35 = \$13\,230$$

He earns \$13 230.

**(b) \$7144.20**

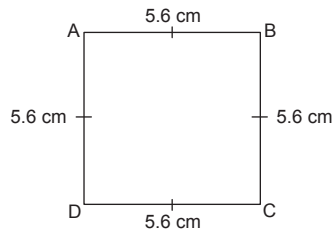
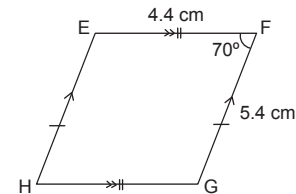
$$100\% - 25\% = 75\%$$

$$\frac{28}{100} \times 75\% = 21\%$$

$$100\% - 25\% - 21\% = 54\%$$

$$\frac{54}{100} \times \$13\,230 = \$7144.20$$

He has \$7144.20 left.

**14. (a)****(b)****15. 53.12 l**

$$58 \text{ cm} \times 26 \text{ cm} \times 40 \text{ cm} = 60\,320 \text{ cm}^3$$

$$= 60.32 \text{ l}$$

$$12 \text{ cm} \times 8 \text{ cm} \times 75 \text{ cm} = 7200 \text{ cm}^3$$

$$= 7.2 \text{ l}$$

$$60.32 \text{ l} - 7.2 \text{ l} = 53.12 \text{ l}$$

53.12 l of water is left in Tank A.

**16. 26th Jan**

$$2 \text{ and } 6 \quad 62 - 26 = 36$$

My birthday is on the 26th Jan.

**17. (a) \$16**

$$3 \text{ woks} + 5 \text{ pots} \rightarrow \$143$$

$$6 \text{ woks} + 5 \text{ pots} \rightarrow \$191$$

$$3 \text{ woks} \rightarrow \$191 - \$143 = \$48$$

$$1 \text{ wok} \rightarrow \$48 \div 3 = \$16$$

Each wok cost \$16.

**(b) \$182.40**

$$5 \text{ pots} \rightarrow \$143 - \$48 = \$95$$

$$1 \text{ pot} \rightarrow \$95 \div 5 = \$19$$

$$\$19 \times 12 = \$228$$

$$\frac{80}{100} \times \$228 = \$182.40$$

The customer paid \$182.40.

**18. 1 m**

$$5 \text{ m}^3 - 2 \text{ m}^3 = 3 \text{ m}^3 \text{ (water in tank each minute)}$$

$$1 \text{ min} \rightarrow 3 \text{ m}^3$$

$$45 \text{ min} \rightarrow 45 \times 3 = 135 \text{ m}^3$$

$$\text{Base area} = 15 \text{ m} \times 9 \text{ m}$$

$$= 135 \text{ m}^2$$

$$135 \text{ m}^3 \div 135 \text{ m}^2 = 1 \text{ m}$$

The water level in the container after 45 minutes will be 1 m.