BOOKLET A

15 Questions

20 marks

Total Time for Booklet A & B: 2 h 15 min

INSTRUCTIONS TO CANDIDATES

DO NOT OPEN THE BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS

Section	Maximum Marks	Actual Marks
A	20	
B + C	80	
Total	100	

Name: _____ (   )

Class: Pr 6 _____

Date: 9 May 2006

Parent's Signature: _____

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SECTION A (20 marks)
Questions 1 to 10 carry 1 mark each.
Questions 11 to 15 carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer
Sheet.

1. What must be added to $2\frac{2}{5}$ to give $3\frac{3}{10}$?
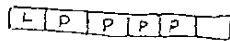
    (1) $\frac{1}{5}$

    (2) $\frac{9}{10}$

    (3) $1\frac{1}{10}$

    (4) $1\frac{1}{5}$

2. Danny spent $\frac{1}{6}$ of his pocket money on his lunch and used $\frac{4}{5}$ of the remainder to buy a pen. What fraction of his pocket money was left?

    (1) $\frac{2}{15}$

    (2) $\frac{4}{30}$

    (3) $\frac{1}{6}$

    (4) $\frac{2}{3}$

3. James, Paul and Tom shared $20 in the ratio of 2 : 3 : 5.
    What is Paul's share of the money?

    (1) $10

    (2) $6

    (3) $3

    (4) $60

4. Abel has twice as many marbles as Ben. Colin has 3 times as many marbles as Abel. What is the ratio of the number of marbles Colin has to the number of marbles Ben has?

    (1)   6 : 1

    (2)   2 : 1

    (3)   3 : 1

    (4)   1 : 6

5. Simplify the expression $6r + 3 - 2r$.

    (1) $4r$

    (2) $4r + 3$

    (3) $8r + 3$

    (4) $9r - 2r$

6. 8% expressed as a decimal is _____.

    (1)   0.008

    (2)   0.08

    (3)   0.8

    (4)   800.0

7. After a month of exercise and strict diet, Amy managed to reduce her mass of 80 kg by 25%. What is Amy's new mass?

    (1)   20 kg

    (2)   25 kg

    (3)   55 kg

    (4)   60 kg

2

8. Express 26kg 4g in grams.

(1)   264 g

(2)   2 604 g

(3)   2 640 g

(4)   26 004 g

9. How many **tenths** are there in the number 60?

(1)   6

(2)   60

(3)   600

(4)   6000

10. Find the value of $40 - 2 \times 14 + 6$.

(1)   0

(2)   18

(3)   538

(4)   760

11. David is **h** years old. His brother is twice his age. What is their total age in 10 years' time?

(1)   3h

(2)   30h

(3)   3h + 10

(4)   3h + 20

12. Sue has 25% more stamps than Tom. If Tom gives 25 stamps to Sue, he will have half of what Sue has. How many stamps does Tom have at first?

    (1)   50

    (2)   100

    (3)   150

    (4)   200

13. The average mass of 4 boys is 40kg. If the total mass of the first 3 boys is 110kg, what is the mass of the **fourth boy**?

    (1)   10kg

    (2)   40kg

    (3)   50kg

    (4)   70kg

14. The total number of people who attended a concert last Saturday was 3 660, of which there were 3 times as many adults as the number of children. The number of men was $\frac{1}{2}$ the number of women present. Find the number of women who attended the concert?

    (1)   915

    (2)   1 830

    (3)   2 440

    (4)   2 745

15. What is the area of the triangle AEC in the figure below?
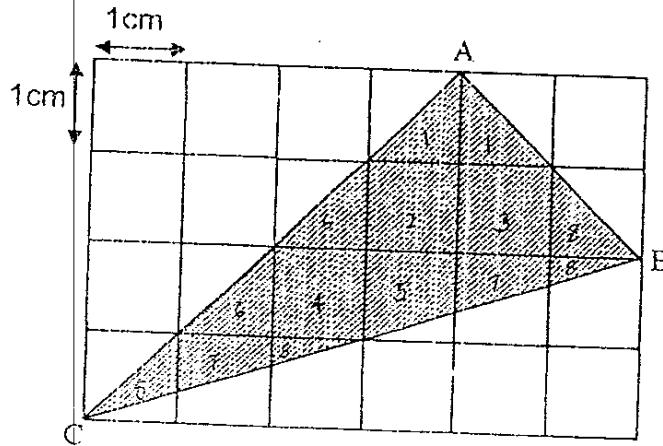
(1)   8 cm²

(2)   12 cm²

(3)   16 cm²

(4)   24 cm²

| BOOKLET B |

Name : _____ ( )   Class: Primary 6 _____

SECTION B (10 marks)

Questions 16 to 25 carry 1 mark each. Write the answers in the blanks provided.
For questions which require units, give your answers in the units stated.

16. Solve $\dfrac{x}{7} \times \dfrac{3}{x}$.

Ans: _____

17. Keith and Pam shared $80. For every $3 that Keith got, Pam received $7.
How much did Pam get?

Ans: $ _____

18. Sam scored 88 marks in a test. His score is 10% more than Joan's marks.
How many marks did Joan score for the test?

Ans: _____ marks

6

19. A wheel makes 4 revolutions in 30 seconds. Find the number of revolutions it can make in 2 hours.

Ans: _____ revolutions

20. Mr Lee's secretary takes 9 minutes to type 810 words. At this rate, how many words can she type in 12 minutes?
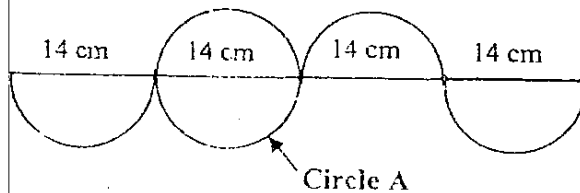
Ans: _____ words

21. The figure shown below is a cube which has a volume of 8 m³.
Find the area of the shaded surface.
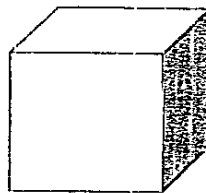
Ans: _____ m²

22. The area of circle A is 154cm². The figure below is made up of 1 circle and 3 semi-circles. Find the area of the figure. (Take $\pi = \dfrac{22}{7}$)

| 14 cm | 14 cm | 14 cm | 14 cm |

Circle A

5

Ans: _____ cm²

23. Miss Vano started making fruit tarts at 9.15 am. She took $3\dfrac{3}{5}$ h to complete her baking
~~Science project~~. At what time did she finish?

Ans:_____ p m

24. Find the number that lies midway between 505 and 521.

Ans: _____

25. A number, multiplied by itself and subtract 1, gives an answer of 24.
Find the number.

Ans: _____

8

Questions 26 to 35 carry 2 marks each. Show your workings clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

26. Express $2\frac{1}{2}$ hr as a fraction of 1 day in its simplest form.

Ans: _____

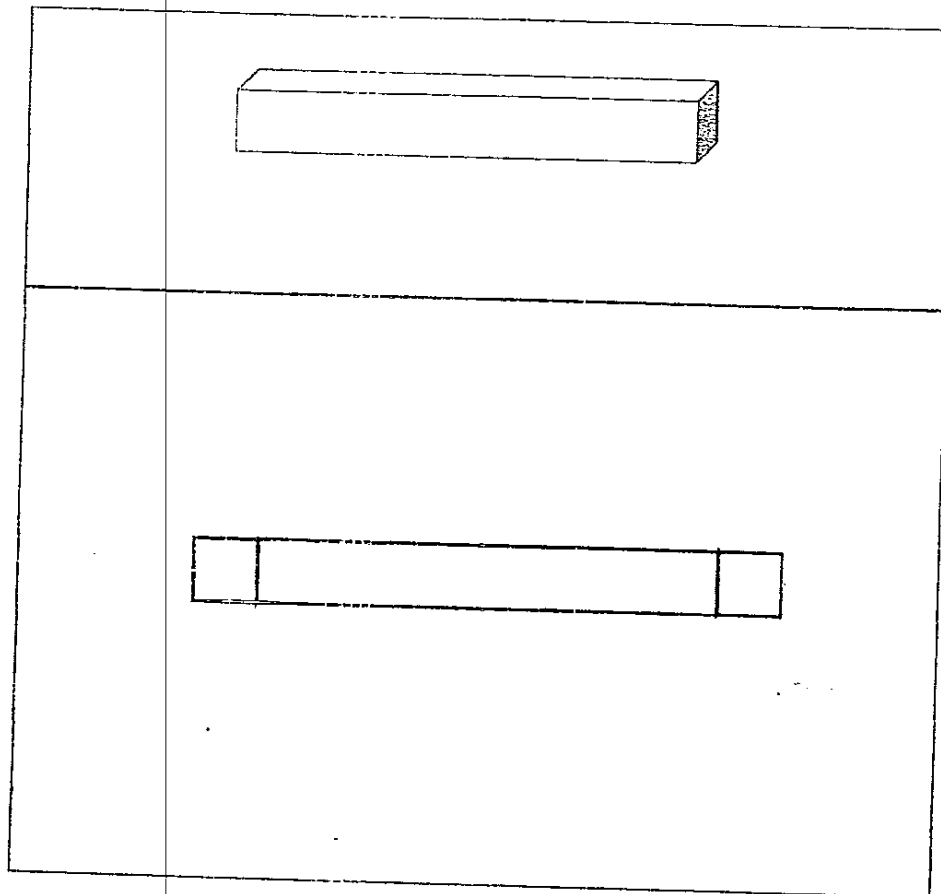27. If $A : B = 1 : 2$ and $B : C = 5 : 7$, what is $A : C$?

Ans: _____

28. Daniel's mass is $\frac{5}{8}$ Roland's mass. If Ronald mass is 56 kg, find their total mass.

Ronald

Ans: _____ kg

9

29. The average of 3 numbers is k and the average of another 4 numbers is 10. What is the average of the 7 numbers? (Leave your answer in terms of k.)

Ans: _____.

30. The figure shows a solid rectangle. In the given space below, complete the net of the solid.

37

31. The figures below shows 3 different views of a pyramid. Complete the net of the pyramid by filling in the remaining 3 sides with the corresponding alphabets (X, Y and Z).
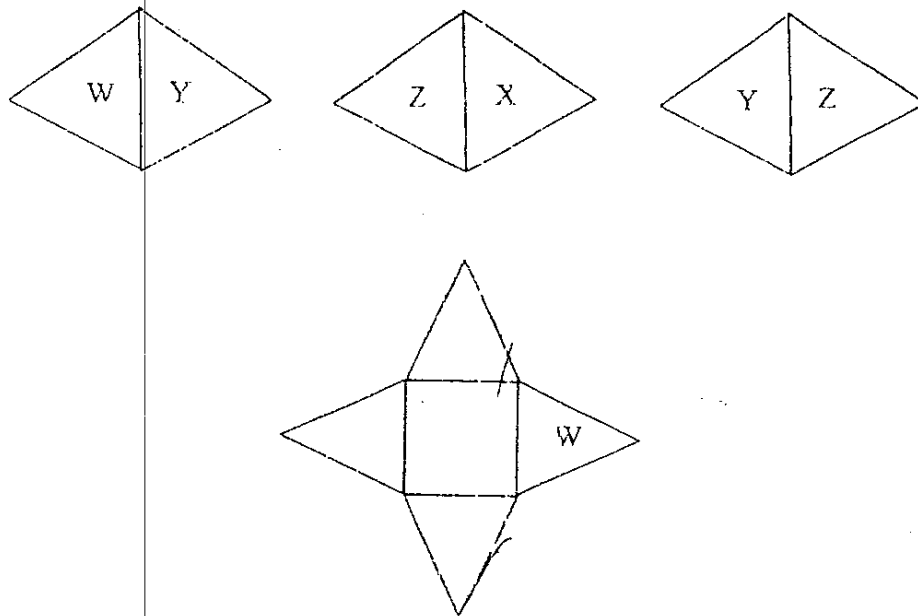
32. Mr Kwok left his home for work at 6.30 a.m. and by 7.30 a.m., he had covered $\frac{2}{3}$ of the journey. He covered the remaining 11 km in half an hour. Find his average speed for the whole journey in km/h.
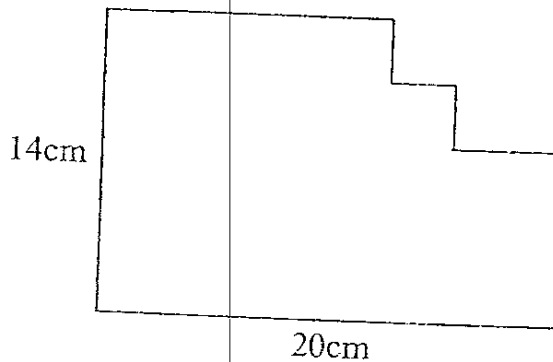
Ans: _____ km/h

33. Four quadrants of equal radius were cut from a square cardboard of side 20 cm. Find the area of the **remaining** cardboard. (Take $\pi = 3.14$)

16 cm
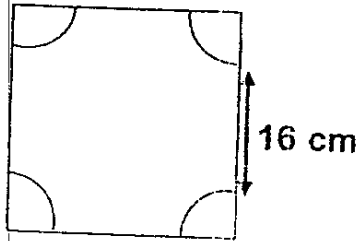
Ans: _____ cm²

34. Find the perimeter of the figure below. The figure is not drawn to scale.

14cm

20cm

Ans:_____ cm

35. A crate filled with 100 metal balls has a mass of 110 kg. The same crate when filled with 100 rubber balls has a mass of 60 kg. The mass of each metal ball is twice as heavy as each rubber ball. Find the mass of each rubber ball in grams.

Ans: _____ g

For questions 36 to 48, show your workings clearly in the space provided for each question and write your answers in the spaces provided.
The number of marks available is shown in the brackets [   ] at the end of each question or part-question.

36. In a cinema, the ratio of number of children to number of adults was 9 : 11.
The ratio of number of boys to the number of girls was 5 : 4.
If there were 60 people in the cinema, how many boys were there?

Answer: _____ [3]

37. Jamie earned $1000 last month. She bought 3 blouses at $p each, spent $440 on food and transportation and saved the rest.

a) Express Jamie's savings in terms of p.
b) If each blouse costs $30, find the amount of Jamie's savings.

Answer: a) _____ [1]

b) _____ [2]

13

38. Govin has 14 ~~marbles~~ *cards* less than Harry but $\frac{2}{3}$ as many as Ivan. Harry has 8 more cards than Ivan. How many cards do they have altogether ?
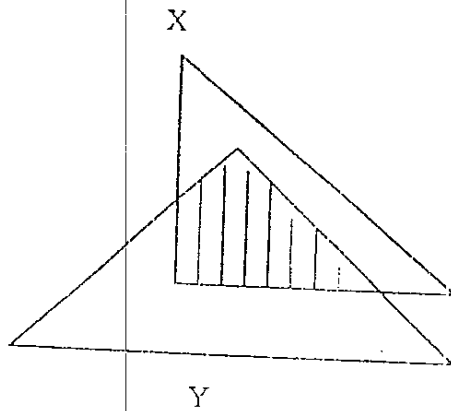
Answer: _____ [3]

39. The figure shows a square and two identical semicircles.
   a) Find the area of the shaded part.
   b) Find the perimeter of the shaded part. (Take $\pi = 3.14$)

12 cm

Answer: a) _____ [1]

b) _____ [2]

14
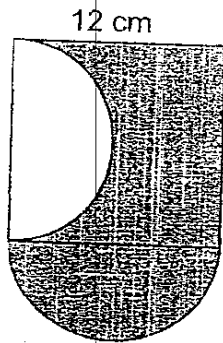
40. The figure is made up of two overlapping triangles X and Y.
The ratio of the shaded area of triangle X to the area of triangle X is 3 : 4.
The ratio of the shaded area of triangle Y to the area of triangle Y is 6 : 11.
What is the ratio of the **shaded area** to the **total unshaded area** in the figure ?

Answer: _____ [3]

42

41. A new car was priced at $90 000. Mr Goh managed to get a 4% discount and paid 20% of the purchase price as a down payment. Mr Goh wished to pay in equal monthly instalments for 10 years. What is the amount to be paid for each instalment? (The instalments are Interest-free.)

Answer: _____ [3]

43

42. In a television games quiz, a player has to answer 30 questions.
The player is awarded 4 points for every question correctly answered.
1 point will be deducted for giving the wrong answer. No point is awarded or deducted for skipping the question. A player skipped 3 questions and has a total score of 48 points. How many questions did the player answer correctly?

Answer: _____ [4]

43. 68% of the guest in a wedding dinner take chinese food. The rest of the guests take vegetarian food and halal food in the ratio of 7 : 9. The number of guests who take halal food is 68 more than the number of guest who take vegetarian food. Find the total number of guests who take **vegetarian and chinese food**.

Answer: _____ [4]

44. Ali and Bala started cycling from Point Y on a road but in the opposite direction. After 2 hours, they were 38 km apart. Ali's average cycling speed was 5 km/h slower than Bala's. What was Bala's average cycling speed?

Answer: _____ [4]

45. A lorry left Town X for Town Y at 11 a.m. at an average speed of 48 km/h. After travelling for some time, the lorry had a break down. An hour later, a motorist left Town Y for Town X and passed the lorry at 1.10pm. The motorist then reached Town X at 1.30 p.m. The motorist was traveling at $1\frac{1}{2}$ times the speed of the lorry.

a) At what time did the lorry break down?
b) How far away was the lorry from its destination?

Answer: a) _____ [3]

b) _____ [2]

47

16. Tank A, which measures 44 cm long, 20 cm wide and 14 cm high, is fully filled with water. When $\frac{3}{4}$ of the water in Tank A is poured into Tank B, Tank B, with a base area of 462 cm^2, is filled with water to its brim.

a) How much water is poured into the Tank B?
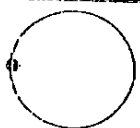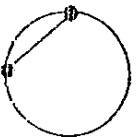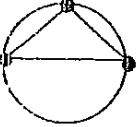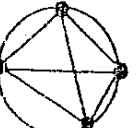b) What is the height of tank B?

Answer: a) _____ [2]
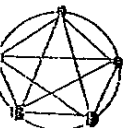
b) _____ [2]

47. The figure is made up of a rectangle, a triangle and two quarter circles. Find the area of the shaded part. (Take $\pi = \frac{22}{7}$)

14 cm

21 cm

Answer: _____ [5]

49
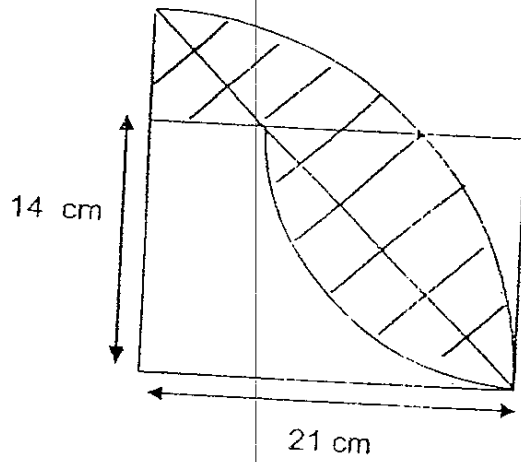
48. a) Study the pattern below carefully and complete the table below by filling in the brackets:

		Number of points, N	Number of lines, L	
Pattern 1		1	0	
Pattern 2		2	1	
Pattern 3		3	3	
Pattern 4		4	6	
Pattern 5		5	10	
Pattern 6		6	( )	[1]
.		.	.	
.		.	.	
Pattern ..		.	36	
Pattern ..		.	( )	[1]
Pattern ..		( )	55	[1]
Pattern ..				

b) Which 2 patterns have a difference of 30 number of lines (L)?

Answer: b) Pattern _____ and _____ [2]

End of Paper
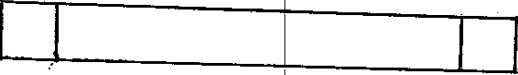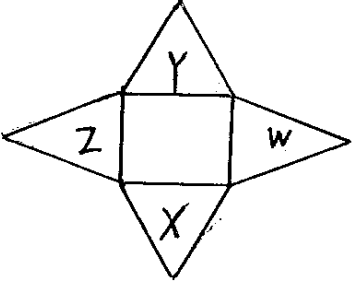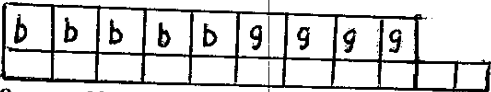
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Nan Hua Primary School
Primary 6 Maths SA1 Exams (2006)

Answer Sheets

Q1	Q2	Q3	Q4	Q5
2	3	2	1	2
Q6	Q7	Q8	Q9	Q10
2	4	4	3	2
Q11	Q12	Q13	Q14	Q15
4	2	3	2	1

16. $\dfrac{3}{7}$

17. $56

18. 80 marks

19. 960 revolutions

20. 2080 words

21. 4m²

22. 385cm²

23. 12.51pm

24. 513

25. 5

26.	$\dfrac{5}{48}$	27.	5 : 14
28.	91kg	29.	$\dfrac{40+3k}{7}$
30.		31.	
32.	22km/h	33.	387.44cm²
34.	68cm	35.	500g

36.		37.	
	(table diagram: b b b b b g g g g)		$1000 - 440 = 560$
	$20u = 60$		$3 \times p = 3p$
	$5u = 15$		Savings $= 560 - 3p$
	There are **15 boys** (Ans)	a.	Jamie's savings is **$(560 -3p)** Ans
			$30 \times 3 = 90$
			$560 - 90 = 470$
		b.	The amount is **$470.00** (Ans)

38.		39.	
	$14 - 8 = 6$		$12 \times 12 = 144$
	$1u = 6$	a.	The area is **144cm²** Ans
	$8u = 48$	b.	$3.14 \times 12 = 37.68$
	$48 + 8 = 56$		$37.68 + 12 + 12 = 61.68$
	They have **56 cards** altogether (Ans)		The perimeter is **61.68cm** (Ans)

40.		41.	
	Shaded area ΔX : ΔX : Unshaded area ΔX		$\dfrac{96}{100} \times 90000 = 86400$
	3 : 4 : 1		
	6 : 8 : 2		$\dfrac{80}{100} \times 86400 = 69120$
	Shaded area ΔY : ΔY : Unshaded area ΔY		$69120 \div 10 = 6912$ (1 year)
	6 : 11 : 5		$6912 \div 12 = 576$
	$5 + 2 = 7$		
	Shaded Area : Unshaded Area		The amount is **$576.00** (Ans)
	6 : 7		
	The ratio is **6 : 7** (Ans)		

42	$30 - 3 = 27$ $27 \times 4 = 108$ $108 - 48 = 60$ $4 - 1 = 5$ $60 \div 5 = 12$ $27 - 12 = 15$ (Ans) The player answered <u>15 questions</u> correctly.	43.	$100 - 68 = 32$ $9 + 7 = 16$ $32 \div 16 = 2$ $7 \times 2 = 14$ (Vegetarian) $9 \times 2 = 18$ (Halal) $18 - 14 = 4$ $4\% = 68$ $1\% = 17$ $68 + 14 = 82$ $82\% = 1394$ The total number of guests is <u>1394</u> (Ans)
44.	$5 \times 2 = 10$ $38 + 10 = 48$ $48 \div 2 = 24$ (2 hours) $\quad = 24 \div 2$ $\quad = 12$km/hr Bala's average speed is <u>12km/hr</u> (Ans)	45.	$1\frac{1}{2} \times 48 = 72$ 1 hour after 11am $= 12$pm 1hr 10min 12pm $= 1.10$pm $1\frac{1}{2} \times 72 = 108$ (Distance) $\quad\quad = 108 - 84$ $\quad\quad = 24$ $\quad\quad = \frac{24}{48}\,hr$ $\quad\quad = \frac{1}{2}\,hr$ $\frac{1}{2}\,hr$ after 11am $= 11.30$am The lorry broke down at <u>11.00am</u> (Ans) $108 - 84 = 84$ The lorry was <u>84km</u> away. (Ans)

46.	Vol. of tank = 44 x 20 x 14 = 12320cm³ $= \frac{3}{4}$ x 12320 = 9240cm³ **9240cm³ water is poured into tank B. (Ans)** 9240 ÷ 462 = 20 **The height is 20cm (Ans)**	47.	21 x 14 = 294 $= \frac{22}{7}$ x 21 x 21 = 1386 = 1386 ÷ 4 = 346.5 $= \frac{22}{7}$ x 14 x 14 = 616 = 616 ÷ 4 = 154 = 294 − 154 = 140 = 3465 − 140 = 206.5 **The area is 206.5cm² (Ans)**
48.	Pattern 6 = 15 Pattern .. = 45 Pattern .. = 11 45 − 15 = 30 (Pattern 10 − Pattern 6) Pattern 10 and 6 have a different of 30 nos. Of lines **Pattern 10 and 6 (Ans)**		