



RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT (1)

2004

Name : _____ Class: P6 _____ Index No: _____

11 May 2004

Mathematics

ATT: 2h 15 min

Your Score Out of 100 marks		
	Class	Level
Highest score		
Average score		
Parent's Signature		

Booklet A (25 marks)

Questions 1 to 5 carry 1 mark each.

Questions 6 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) and shade the correct oval on the Optical Answer Sheet.

1. $23\,759 = 23\,000 + \boxed{} + 50 + 9$

What is the missing number in the box?

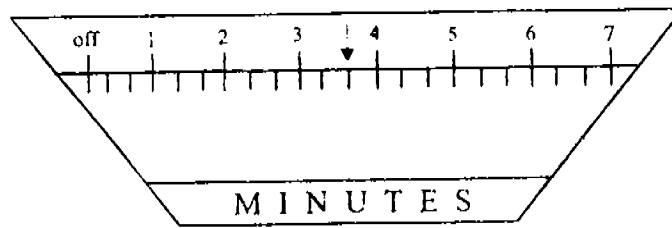
- (1) 7000
- (2) 700
- (3) 70
- (4) 7

2. $6 \times \frac{3}{4} = 3 \times \frac{3}{4} + \frac{1}{2} + \frac{1}{4} + \boxed{} \times \frac{3}{4}$

The value in the box is _____.

- (1) 1
- (2) 2
- (3) 3
- (4) 7

3. The figure below shows a timer used in a toaster oven.



The timer shows _____

- (1) 3.2 minutes
(2) 4.2 minutes
(3) 3 minutes 20 seconds
(4) 3 minutes 40 seconds
4. Zach cycled 7 km in 35 min. What was his cycling speed in km/h?
- (1) 12
(2) 20
(3) 245
(4) 200
5. Express the ratio 12 : 8 : 6 in its simplest form.
- (1) 3 : 2 : 6
(2) 4 : 2 : 3
(3) 6 : 4 : 3
(4) 12 : 4 : 3
6. $\frac{14}{3} = \frac{12}{3} + \frac{\square}{6}$
- What is the missing number in the box?
- (1) 12
(2) 2
(3) 6
(4) 4

7. Express the sum of $\frac{1}{12}$ and $\frac{1}{3}$ as a decimal, rounding off your answer to 2 decimal places.

- (1) 0.41
- (2) 0.42
- (3) 2.40
- (4) 2.50

8. Mrs. Lim had $(8x + 9)$ pens. She gave 4 pens to each pupil and had $3x$ pens left. Find the number of pupils in terms of x .

- (1) $\frac{8x - 3x}{4}$
- (2) $\frac{8x + 5}{3x}$
- (3) $\frac{8x + 9}{4}$
- (4) $\frac{11x + 9}{4}$

9. A sum of money is shared between Amy and Betty such that for every \$4 that Amy receives, Betty receives \$7. If Betty receives \$54 more than Amy, what is the sum of money shared between them?

- (1) \$65
- (2) \$126
- (3) \$198
- (4) \$252

10. In a class, 40% of the pupils are boys. 20% of the boys and 30% of the girls are Chinese. How many percent of the pupils are Chinese?

- (1) 18%
- (2) 26%
- (3) 38%
- (4) 50%

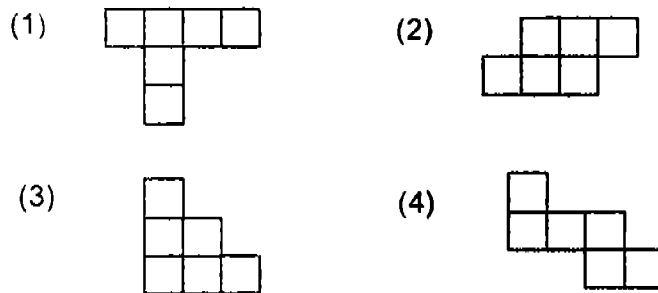
11. Multiply the LCM of 4 and 6 by 10.

- (1) 60
- (2) 100
- (3) 120
- (4) 240

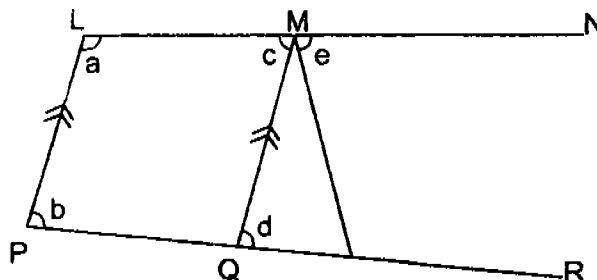
12. In 4.178, the value of the digit 7 is _____.

- (1) 0.0007
- (2) 0.007
- (3) 0.07
- (4) 0.7

13. Which one of the following is the net of a cube?



14. The figure below is not drawn to scale. LMN and PQR are straight lines. LP is parallel to MQ. Which one of the following statements is true?



- (1) $\angle a + \angle b = 180^\circ$
- (2) $\angle a + \angle c = 180^\circ$
- (3) $\angle b + \angle d = 180^\circ$
- (4) $\angle e + \angle d = 180^\circ$

15. Mathew drove a car at 100 km/h for the first 100 km of the journey. For the remaining 40 km of the journey, he reduced his speed by 60 km/h. Find his average speed for the whole journey in km/h.

- (1) 40 km/h
- (2) 70 km/h
- (3) 80 km/h
- (4) 84 km/h

SECTION B : (20 marks)

Questions 16 – 35 carry 1 mark each. Write your answers in the spaces provided. Give your answers in the units stated.

16. Find the difference between 43 hundreds and 43 ones.

Ans : _____

17. Simplify $24 \div 6 + (80 - 52) \times 2$

Ans : _____

18. A bag has 120 hairclips. $\frac{3}{5}$ of them are white while the rest are red. How many hairclips are red?

Ans : _____

19. Subtract $\frac{3}{7}$ from $1\frac{1}{14}$.

Give your answer in its simplest form.

Ans : _____

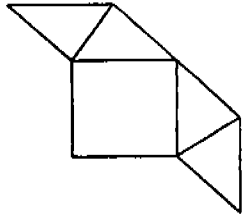
20. Round off 158.74 to the nearest tenth.

Ans : _____

21. An unstretched spring is 0.5 m long. For every 30g the spring supports, the spring stretches by 2 cm. What will be the length of the spring when a 150g weight is hung from it?

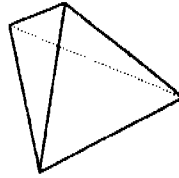
Ans : _____ m

22.

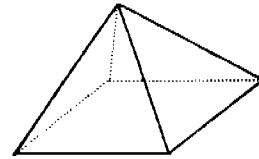


The net on the left consists of four equilateral triangular faces and a square base. Which one of the following solids does it belong to ?

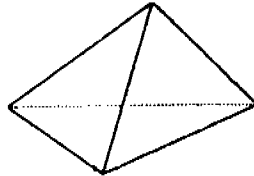
A



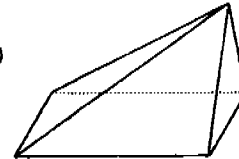
B



C



D



Ans : _____

23. John had a weekly allowance of \$8m. If he spent \$m everyday, how much money had he left after 3 days?

Ans : \$ _____

24. A wheel makes 24 revolutions in 3 minutes. How many minutes will it take to make 120 revolutions?

Ans : _____ min

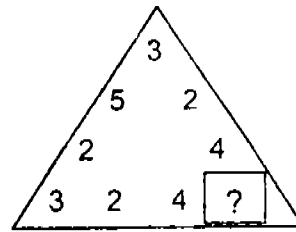
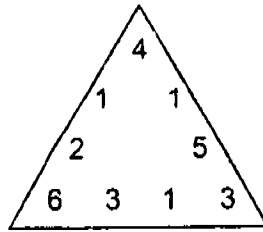
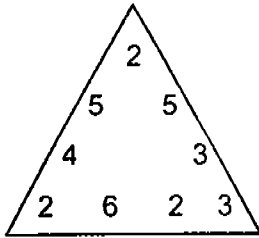
25. The ratio of the amount of water to the amount of lemonade used in making a syrup drink is 5 : 3. How many $\frac{1}{2}$ -litre bottles of lemonade are needed to make 40 litres of syrup drink?

Ans : _____ bottles

26. 25% of a number is 135. What is 65% of the number?

Ans : _____

27. Study the number patterns below



What is the missing digit in the box?

Ans : _____

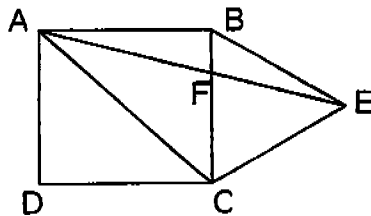
28. $\frac{2}{5}$ of Ali's books were thrillers. $\frac{4}{9}$ of the remaining number were fiction. What fraction of Ali's books were fiction books? Give your answer in its simplest form.

Ans : _____

29. Subtract 3.08 from 15 and add 6.3 to its answer.

Ans : _____

30. ABCD is a square and BCE is an equilateral triangle. Find $\angle BEF$.

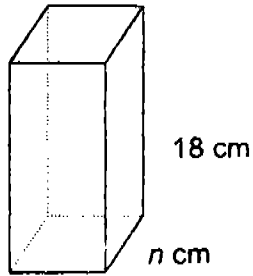


Ans : _____ °

31. Tom was facing north-west before he made a clockwise turn of 135° . Which direction would he be facing now?

Ans : _____

32. Lisa poured some water into the empty tank below which has a square base of side n cm.



How much water would she need to fill up half the tank?

Ans : _____ cm^3

33. Sharmala jogged at an average speed of 5 km/h for $1\frac{1}{5}$ hours. What was the distance Sharmala jogged?

Ans : _____ km

34. Adrian's weight is $\frac{2}{5}$ Brian's weight. The ratio of Brian's weight to Colin's weight is 10 : 8. Find the ratio of Adrian's weight to Colin's weight in its simplest form.

Ans : _____

35. Aaron is 1 year 6 month old while Bob is 3 year 4 month old. Express Aaron's age as a percentage of Bob's age.

Ans : _____ %

Booklet B (55 marks)

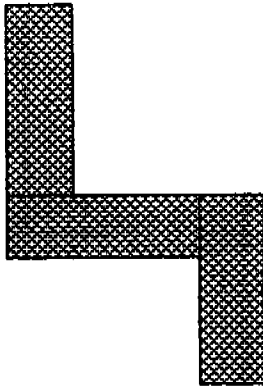
For questions 36 to 50 , show your working clearly in the space below each question and write your answers in the spaces provided.

The number of marks available is shown in brackets [] at the end of each question or part question.

36. ^{when}
Alan is 4 years old now. Jim is $1\frac{1}{2}$ times as old as Alan. How old will Jim be when
^
Alan is 7 years old?

Ans : _____ [2]

37. The figure below is made up of three identical rectangles each of which has a breadth of h cm and a length thrice as long as its breadth. Find the perimeter of the figure in terms of h .



Ans : _____ [2]

38. Mary bakes 2000 cupcakes. She packs 1200 of them into boxes of 4. The rest are packed into bigger boxes of 6. How many boxes does Mary have altogether?

Ans : _____ [3]

- 39) These are the prices of two items sold at a shop:

Item	Cost
Pens	\$1.04 each
Files	\$4.95 each

Jessie bought 2 dozens of pens and 4 files.

She gave the cashier \$50.

How much change did she receive?

Ans : \$ _____ [3]

40. A rectangular tank, 50 cm long and 10 cm wide, is filled with water until it is half full. When a rock of volume 1000 cm^3 is put into the tank, the water level in the tank rises up to $\frac{3}{5}$ the height of the tank.
- (a) What is the increase in water level after the rock has been put in?
(b) Find the height of the tank.

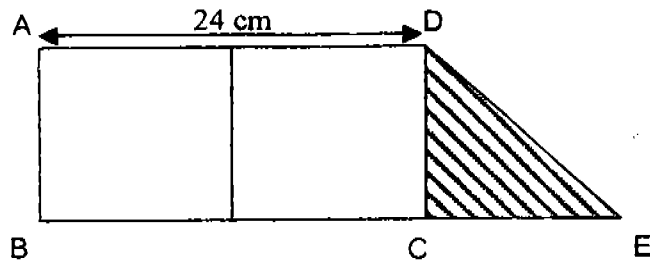
Ans : (a) _____ [1]

(b) _____ [2]

41. Mary had \$84 more than Eve. After Eve had given \$39 to Mary, the ratio of Mary's money to that of Eve's became 5:2. How much money had Mary at first?

Ans : _____ [3]

- 42) Rectangle ABCD is made up of 2 identical squares. BCE is a straight line. Given that AD is 24 cm and the area of the shaded triangle DCE is 72 cm^2 , find
- (a) the length of CE
- (b) $\angle DEC$



Ans : (a) _____ [2]
 (b) _____ [1]

43. James, Peter and Amy had 101 sweets altogether. James gave Peter 8 of his sweets while Amy ate up 11 of hers. After this, the three found they all had the same number of sweets.
- (a) Which of the three children had the least number of sweets at first?
 (Draw a model to show how you derive your answer.)
- (b) What was the total number of sweets Peter and Amy had at the beginning?

Ans : (a) _____ [2]
 (b) _____ [2]

44. The table below shows the charges for the purchase of a certain type of car cleaning oil.

Quantity	\$
First 1000 cm ³	0.05 per cm ³
Next 1000 cm ³	0.10 per cm ³
Additional 1cm ³	0.20 per cm ³

- (a) Tita Company purchased 2700 cm³ of the oil. How much did the company pay for the purchase?
- (b) If there was a charge of 4% GST, how much would the company have to pay in all?

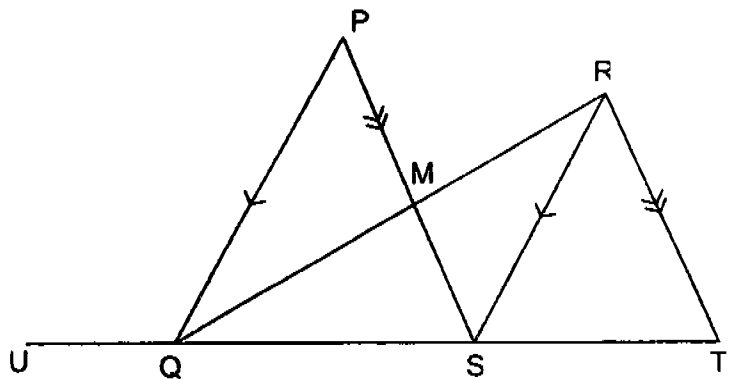
Ans : (a) _____ [2]

(b) _____ [2]

45. In the diagram below, PS, QR and UQST are straight lines. PQ is parallel to RS and PS is parallel to RT. $\angle QPM = 60^\circ$, $\angle QRS = 20^\circ$ and $\angle UQP = 132^\circ$.

Find :

- (a) $\angle RTS$
 (b) $\angle QMS$
 (c) $\angle MQS$



Ans : (a) _____ [2]

(b) _____ [1]

(c) _____ [1]

46. Ravi had 525 marbles of which 20% of the number were blue ones. The rest were yellow. He lost 18 blue marbles in a game but bought some more blue ones to add on to the number that was left. The percentage of blue marbles then became 40% of the total number.

- (a) How many yellow marbles were there?
- (b) How many blue marbles did Ravi buy?

Ans : (a) _____ [1]

(b) _____ [3]

Name : _____

Index No : _____

Class : P 6 ____

47. There were 56 female members and $\frac{7}{8}$ as many male members in a club. When 12 more members were added to the number of members, the number of male members was $\frac{6}{7}$ of the number of female members.
- (a) How many members were there at first?
- (b) After the 12 members were added, find the number of female members in the club.

Ans : (a) _____ [3]

(b) _____ [2]

16

48. Mr Teo was travelling from Town K to Town L. After completing $\frac{2}{7}$ of the journey, he passed a truck travelling at a constant speed of 70 km/h in the same direction. Mr Teo reached Town L 3 hours later, the truck was still 65 km away from Town L.
- (a) Find the distance between the two towns.
- (b) If the truck left Town K at 10.30 a.m., at what time would it arrive at Town L?

Ans : (a) _____ [3]

(b) _____ [2]

49. At a funfair, the ratio of the number of boys to the number of girls was 5 : 2. Each boy was given 2 coupons while each girl received twice as many coupons as each boy.
- (a) If 3600 coupons were given to the children at the beginning of the funfair, how many more boys than girls were there?
 - (b) By the end of the day, $\frac{2}{5}$ of the number of boys had left and there were 25% more girls remaining at the funfair. Find the new ratio of the number of girls to that of the boys then.

Ans : (a) _____ [2]

(b) _____ [3]

50. Study the information below and answer questions 50 (a) and (b).

ABC BOOKSHOP

FB English Dictionary \$ 48	PSLE <i>Math Tips</i> \$27
---	--

16% Discount
for
All Primary School Pupils.
Valid till 30 May 2004

- (a) Mary is taking her PSLE this year. What is the total amount of money that she has to pay for the two books if she buys them before the end of May?
- (b) Mary gets an allowance of \$5 every day. She spends \$3 and saves the rest of it each day. Mary saves the same amount of money for 21 days in May but finds that she has to increase the amount of savings each day to have enough money to buy the two books at the discounted price. Find the percentage increase in savings for each day.

Ans : (a) _____ [2]

(b) _____ [3]

--THE END--

Setters: Mdm Adlina Suparman
Ms Chong Sau Kew
Mrs Ann Ong

P6 Mathematics SA1, 2004 Answer Key

Q1	Ans	Q1	Ans	Q1	Ans	Q1	Ans	Q1	Ans
1	2	8	3	15	2	22	B	29	18.22
2	2	9	3	16	4257	23	5m	30	15
3	4	10	2	17	60	24	15	31	East
4	1	11	3	18	48	25	30	32	9m ²
5	3	12	3	19	9	26	351	33	6
6	4	13	4	20	158.7	27	4	34	1:2
7	2	14	2	21	0.6	28	4	35	45

36. $\frac{3}{2} \times 4 = 6$ years -----(M1)
 $7 + 2 = 9$ years -----(A1) OR $6 + 3 = 9$ years (A1)

37. $8h + 8h + 8h - 4h = 20h$ cm ----- (M1)
 $= 20h$ cm ----- (A1)

38. $4s = 1200 + 4 = 300$ -----(M½)
 Left ----- $2000 - 1200 = 800$ -----(A½)
 $6s = 800 + 6 = 134$ -----(M1)
 Total ----- $300 + 134 = 434$ -----(A1)

39. 24 pens ----- $24 \times \$1.04$
 $= \$24.96$ ----- (M½)

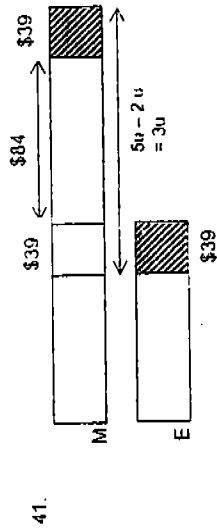
4 files ----- $4 \times \$4.95$
 $= \$19.80$ ----- [M½]

total ----- $\$24.96 + \19.80
 $= \$44.76$ ----- [M½]

change ----- $\$50 - \44.76
 $= \$5.24$ ----- [M½ A1]

40a. Increase in water level ----- $\frac{1000}{10 \times 50} = 2$ cm ----- [M½ A½]

b. frac increase ----- $\frac{3}{5} - \frac{1}{2} = \frac{1}{10}$
 $\frac{1}{10}$ height ----- 2 cm } ----- [M1]
 height of tank ----- 2×10 cm
 $= 20$ cm ----- [A1]



(correct model - M1)

3 units = $\$84 + \78
 $= \$162$ ----- (M1)

1 unit = $\$162 \div 3$
 $= \$54$

5 units = $\$54 \times 5$
 $= \$270$ ----- (A½)

Amount of money Mary had at first - $\$270 - \39 ----- (M1)
 $= \$231$ ----- (A½)

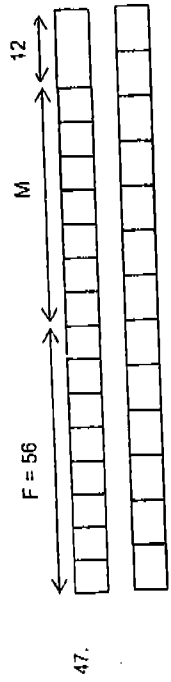
42. (a) DC ----- $24 + 2 = 12$ cm
 Area of DCE ----- $\frac{1}{2} \times DC \times CE = 72$ cm² [M1]
 $\frac{1}{2} \times 12 \times CE = 72$
 Length of CE ----- $72 \div 6$
 $= 12$ cm [A1]

(b) If DC = CE = 12 cm,
 DCE is an isosceles triangle.
 $\angle DEC = (180^\circ - 90^\circ) \div 2$
 $= 45^\circ$ [M½, A½]

46. Before
 Blue ---- $\frac{20}{100} \times 525 = 105$
 Yellow ---- $525 - 105 = 420$ ----- (A1)

After
 60% --- 420 (Yellow)
 $\frac{420}{6} \times 4 = 280$ ---- (M1)
 40% --- $280 - (105 - 18) = 193$ ---- (M1, A1)

No. of blue marbles bought --- 280 - (105 - 18) = 193 ---- (M1, A1)

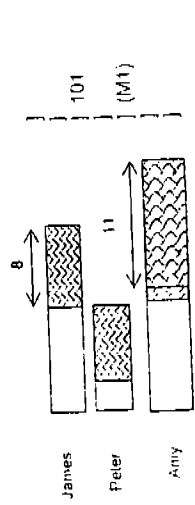


47. (a) Method 1:
 1 unit = $56 + 8 = 7$
 15 units = $7 \times 15 = 105$ ----- (M1, A1)

Method 2:
 Male - $\frac{7}{8} \times 56 = 49$
 Members = $56 + 49 = 105$ ----- (M1, A1)

(b) Method 1:
 No. of members = $105 + 12 = 117$
 13 units = 117
 1 unit = $117 \div 13 = 9$ ----- (M1)
 7 units = $9 \times 7 = 63$ ----- (A1)

Method 2:
 No. of members = $10 + 12 = 117$
 Female - $\frac{7}{13} \times 117 = 63$ ----- (M1, A1)



45. (a) Peter ----- (A1)
 3 units = $101 - 11 = 90$
 1 unit = $90 \div 3 = 30$
 Amy --- $30 + 11 = 41$
 Total number ---- $22 + 41 = 63$ ----- (M1, A1)

(b) First 1000 cm^3 ----- $1000 \times \$0.05 = \$ 50.00$
 Next 1000 cm^3 ----- $1000 \times \$0.10 = \$ 100.00$
 Next 700 cm^3 ----- $700 \times \$0.20 = \$ 140$
 Total charges --- $\$50.00 + 100.00 + 140.00$ ----- (M1)
 --- $\$290$ ----- (A1)

(b) Method 1
 GST - $4\% \times \$290 = \11.60 ----- (M2)
 Total charges - $\$290 + \$11.60 = \$301.60$ ----- (M2, A1)

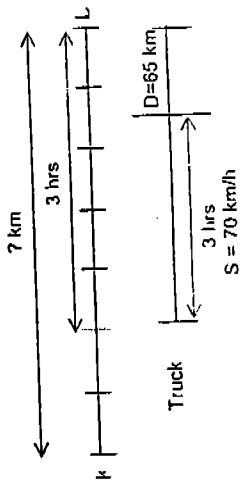
Method 2
 $\frac{104}{100} \times 290$ ----- (M1)
 = $\$301.60$ ----- (A1)

45. (i) $\angle PSQ = 132^\circ - 60^\circ = 72^\circ$ [M1]
 $\angle RTS = 72^\circ$ [A1]

(b) $\angle POM = 20^\circ$
 $\angle QMS = 20^\circ + 60^\circ = 80^\circ$ [A1]

(c) $\angle POS = 180^\circ - 132^\circ = 48^\circ$
 $\angle MQS = 48^\circ - 20^\circ = 28^\circ$ [A1]
 OR
 $\angle MQS = 180^\circ - 80^\circ - 132^\circ = 28^\circ$ (A1)

48.



70 x 3 = 210 km
 210 + 65 = 275 km (M1)

5 units ---- 275
 1 unit ---- 275 ÷ 5 = 55

(a) 7 units --- 55 X 7 = 385 km ---- (M1, A1)

time taken --- 385 ÷ 70 = 5 1/2 hr ---- (M1)

(b) 5 1/2 hrs after 10.30 a.m is 4.00 p.m. ---- (A1)

49.

Boys : Girls

5 : 2

(x 2) (x 4)

10 : 8 (coupons)

No. of boys / girl groups : 3600 ÷ 18 = 200 ---- (M1)

Boys = 200 x 5 = 1000

Girls = 200 x 2 = 400 (M1)

(a) Difference = 1000 - 400
 = 600 ---- (A1)

Later :

Boys : 3/5 x 1000 = 600 ---- (M/4)

Girls : 125/100 x 400 = 500 ---- (M/4)

New ratio : 6 : 5 ---- (A1)

50. a) $\frac{84}{100} \times 75$ (M1)
 = \$63 (A1)

(b) Before
 Every day: Spent--\$3 ; Savings--\$2

May

Every day: Savings--\$ $\frac{63}{21}$ (M1)

Spent \$2 ; Savings--\$3

% $\frac{3-2}{1} \times 100\%$ (M1)

= 50% (A1)

OR

21 days' savings ---- 2 x 21 = \$42 (M1)

amt needed ---- 63 - 42 = 21 (M1)

increase per day ---- 21 ÷ 21 = \$1

% increase ---- $\frac{1}{2} \times 100\%$ = 50% (A1)