



NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2011
PRIMARY 6

MATHEMATICS

Paper 1

Section A : 15 Multiple Choice Questions (20 marks)

Section B : 15 Short Answer Questions (20 marks)

Total Time for Paper 1 : 50 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided for Questions 1-15.
6. You are not allowed to use the calculator for Paper 1.

Marks Obtained

Paper 1	/ 40
Paper 2	/ 60
Total	/ 100

Name: _____ ()

Class: P 6 _____

Date : 11 May 2011

Parent's Signature: _____

Section A (20marks)

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 oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. What is the value of $\frac{2}{9} \div \frac{3}{4}$?

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

(2) $\frac{8}{27}$

(3) $3\frac{3}{8}$

(4) 6

()

2. Express 40 minutes as a fraction of 2 hours.

(1) $\frac{1}{20}$

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

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

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

()

3. Johnson bought a camera that cost \$1 100 when rounded off to the nearest hundred dollars. Which one of the following could be the actual cost of the camera?

(1) \$1 039

(2) \$1 049

(3) \$1 119

(4) \$1 159

()

4. Simplify $4r + 5 + 3r - 2$.
- (1) $r - 7$
 (2) $r + 7$
 (3) $7r + 3$
 (4) $7r - 3$
- () ()
5. The areas of two squares are in the ratio 1 : 4. The area of the smaller square is 9 cm^2 . What is the length of the sides of the larger square?
- (1) 6 cm
 (2) 9 cm
 (3) 3 cm
 (4) 36 cm
- () ()
6. A tank was left with $6\frac{3}{8}$ litres of water in it after $\frac{1}{4}$ litres of water was removed from it. How much water was there in the tank at first?
- (1) $6\frac{1}{8}$ litres
 (2) $6\frac{4}{12}$ litres
 (3) $6\frac{4}{2}$ litres
 (4) $6\frac{8}{5}$ litres
- () ()
7. There are 90 marbles in a bag. 18 are white, 45 are blue and the rest are red. What percentage of the marbles in the bag are red?
- (1) 20%
 (2) 27%
 (3) 30%
 (4) 50%
- () ()

8. The ratio of the base to the height of a triangle is 5 : 4. The base of the triangle is 15 cm. Find the area of the triangle.

- (1) 12 cm²
- (2) 27 cm²
- (3) 90 cm²
- (4) 180 cm²

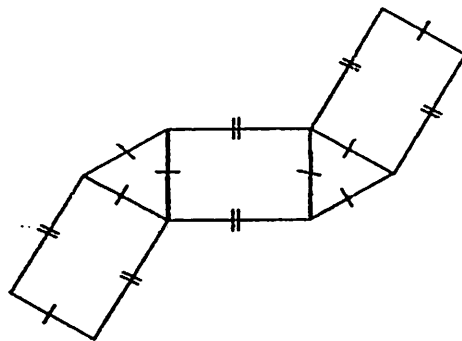
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9. An aeroplane takes 40 minutes to complete a distance of 540 km from one airport to another. What is the average speed?

- (1) 13.5 km/h
- (2) 81 km/h
- (3) 135 km/h
- (4) 810 km/h

()

10. The figure, which is not drawn to scale, shows the net of a solid. What is the name of the solid?



- (1) cube
- (2) cuboid
- (3) prism
- (4) pyramid

()

13. Sammy bought a pair of shoes. After a discount of 20% for the shoes, the salesgirl gave Sammy a further cash discount of \$20. Finally, Sammy paid \$120 for the shoes. What was the price of the shoes at first?
- (1) \$100
 - (2) \$125
 - (3) \$150
 - (4) \$175
- () ()

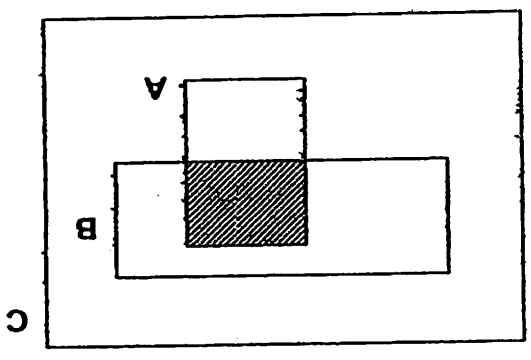
12. Christopher saved \$150 less than Jeremy. 30% of Christopher's savings was the same as 20% of Jeremy's savings. How much did they save altogether?
- (1) \$450
 - (2) \$750
 - (3) \$1500
 - (4) \$3000
- () ()

11. In the figure below, ABD and CBE are straight lines. Find $\angle BCD$.
-
- (1) 48°
 - (2) 52°
 - (3) 64°
 - (4) 112°
- () ()

- (1) 1 : 4
- (2) 1 : 11
- (3) 1 : 15
- (4) 1 : 21

6

()



15. In the figure, not drawn to scale, the ratio of the area of Rectangle A to area of Rectangle B to area of Rectangle C is 1 : 2 : 8. If $\frac{1}{4}$ of B is shaded, what is the ratio of the area of the shaded part to the area of the unshaded part of the figure?

- (1) \$39
- (2) \$52
- (3) \$55
- (4) \$78

()

Calculate the total postage for sending a 650 g parcel to France by air.

Postage Rates (By Air)		Country
First 200 g	\$25	France
Every additional 100 g or part thereof	\$6	

14. The table below shows the postage-rates of sending parcels by air to France.

Section B (20 marks)

Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. [10 marks]

16. $68 \div 1\,000 = \boxed{?} \div 10$

The missing decimal in the box is _____.

Ans: _____

17. Express $2\frac{1}{4}$ as a percentage.

Ans: _____%

18. If $a = 3$, find the value of $\frac{2a + 6}{3}$

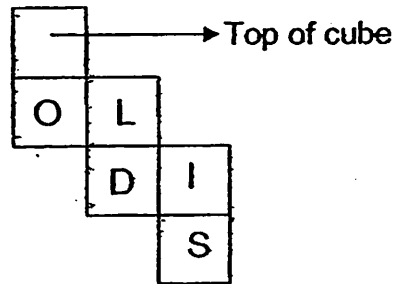
Ans: _____

19. Rachel had y beads. Tammy had thrice as many beads as Rachel. Jackie had 12 more beads than Tammy. How many beads did the 3 girls have in all?

Ans: _____

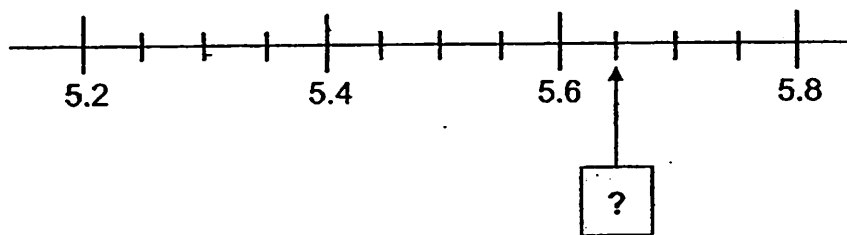
Subtotal	/ 4
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20. The figure shown below is folded to make a cube, which letter is at the base of the cube?



Ans: _____

21. Fill in the missing decimal.



Ans: _____

22. The average of 12 numbers is 97. If the sum of the 11 numbers is 1 039, what is the 12th number?

Ans: _____

23. The sum of $\frac{7}{10}$ of a number and $\frac{2}{5}$ of the same number is 132.
What is the number?

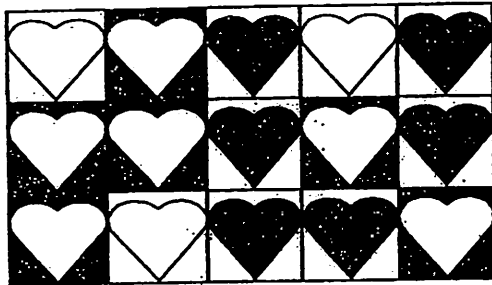
Ans: _____

Subtotal	/ 4
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24. Bulb A lights up every 3 minutes.
 Bulb B lights up every 4 minutes.
 Bulb C lights up every 8 minutes.
 If all the 3 bulbs light up 7.25 p.m.
 When will be the next time they light up together again ?

Ans: _____ p.m.

25. What percentage of the figure is shaded?



Ans: _____ %

Subtotal	12
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Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For each questions which require units, give your answers in the units stated. [10 marks]

26. Mr. Yong cycled at a speed of 12 km/h. How long did he take to complete a journey of 30 km?

Do not write in this space

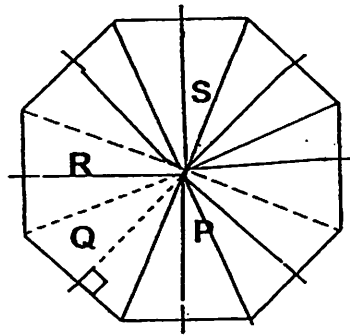
Ans : _____ h _____ min

27. Mrs. Leong places 15 potted plants around a triangular garden. Every corner of the garden is placed with a potted plant. There is an equal number of potted plants on each side of the garden. How many potted plants are on each side of the garden?

Ans : _____

Subtotal	/ 4
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28. The figure below is an octagon made up of four parts, P, Q, R and S.



Which two parts will add up to make $\frac{7}{16}$ of the figure?

Ans : _____ and _____

29. Kelly had some sweets. She gave Josiah $\frac{1}{3}$ of her sweets and 3 more.

Then she gave Matthew $\frac{1}{3}$ of the sweets left. In the end, she had 18 sweets left. What was the total number of sweets that Kelly had at first?

Ans : _____

Subtotal	14
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Do not write
in this space

30. Siti gave 5% of her collection of stickers to Alice thereby increasing Alice's collection by 10%. If Siti had 76 stickers left, how many stickers did Alice have at first?

Do not write
in this space

Ans : _____

Subtotal	12
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END OF PAPER



NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2011
PRIMARY 6

MATHEMATICS

Paper 2

Section A : 5 Short Answer Questions (10 marks)

Section B : 13 Long Answer Questions (50 marks)

Total Time for Paper 2 : 1 hour 40 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions and show your workings clearly.
5. You are allowed to use the calculator for Paper 2.

Marks Obtained

Total	/ 60
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Name: _____ ()

Class: P 6 _____

Date: 11 May 2011

Section A (10 marks)

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

1. The breadth of a rectangle is 60% of its length. If the breadth of the rectangle is 18 cm, what is the perimeter of the rectangle?

Do not write in this space

Ans : _____ cm

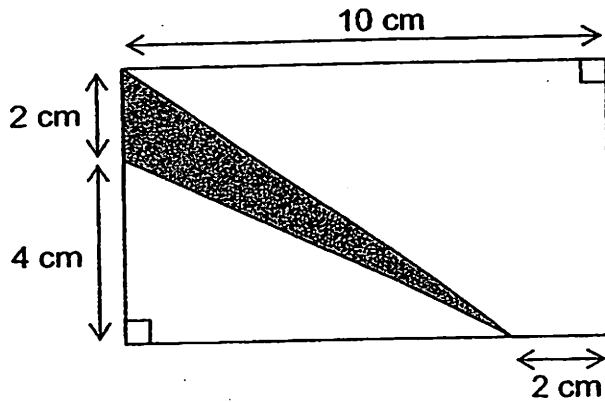
2. A tailor has 3 metres of cloth. He uses $\frac{4}{15}$ metres of cloth to make a headband. What is the maximum number of headbands he can make with his cloth?

Ans : _____

3. Ray has more than 10 but less than 60 cards. If he packs them into packets of 6 cards, he will have 3 cards left over. If he packs them into packets of 7 cards, he will be short of 5 cards. How many cards does Ray have?

Ans : _____

4. What is the area of the shaded figure?



Do not write
in this space

Ans : _____ cm²

5. A departmental store was having a storewide discount of 20%. Sammy bought a pair of jeans at \$56. What was the original price of the pair of jeans?

Ans: \$ _____

Section B (50 marks)

For questions 6 to 18, show your working 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. Remember to include the units wherever possible.

6. Mary had $\frac{5}{8}$ as many sweets as Lucy. After Lucy gave $\frac{1}{4}$ of her sweets to Mary, Mary had 10 more sweets than Lucy. How many sweets did Mary have at first?

Do not write in this space

Ans : _____ [3m]

7. Jack had 8p marbles. Samuel had twice as many marbles as Jack. Dave had 7 marbles less than Samuel.
- a) How many marbles did Dave have?
- b) How many marbles did they have altogether?

Ans : a) _____ [1m]

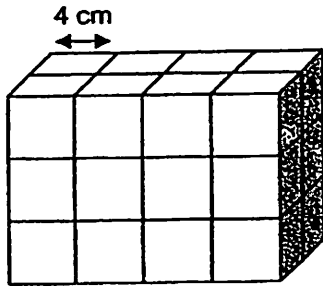
b) _____ [2m]

8. The ratio of the number of pencils Kathy has to the number of pencils Joseph has is 3 : 2. After Kathy gives away 30 pencils, this ratio becomes 2 : 3. How many pencils does Kathy have at first?

Do not write
in this space

Ans : _____ [3m]

9. The cuboid below is formed with 4-cm cubes. What is the volume of the cuboid?



Ans : _____ [3m]

10. Devi and Laura took part in a cycling competition. Devi's average speed was 400 m/min. When Devi completed the journey in 45 minutes, Laura still had 900 metres to cover.

a) What was the distance of the cycling competition?

b) What was Laura's average speed?

Do not write
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Ans : a) _____ [1m]

b) _____ [2m]

11. There are 36 pupils in a class. The ratio of the number of boys to the number of girls is 5 : 4. If 2 more boys join the class, what fraction of the class are girls? Express your answer in its simplest form.

Ans : _____ [3m]

12. A pen costs $\frac{2}{5}$ as much as a magazine and $\frac{3}{11}$ as much as a book. If the book costs \$14 more than the magazine,

- a) how much does the pen cost?
- b) what is the total cost of the 3 items?

Do not write
in this space

Ans : a) _____ [2m]

b) _____ [2m]

13. Mrs Lim baked 480 cheese cookies and chocolate cookies altogether. She gave 75% of her cheese cookies and 50% of the chocolate cookies to her mother. She was left with 160 cookies. How many cheese cookies did she bake?

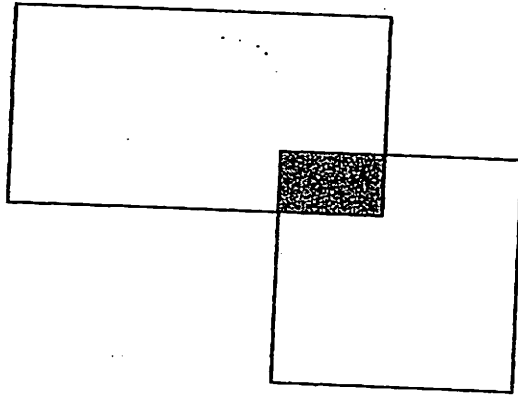
Ans : _____ [4m]

14. The ratio of the number of 20-cent coins to the number of 50-cent coins to the number of \$1 coins in a bag is 2 : 6 : 7. Given that the total amount of money in the bag is \$156, how many coins are there altogether?

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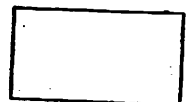
Ans: _____ [4m]

15. The figure below is made up of a rectangle and a square. The ratio of the area of the rectangle to the area of the square is 5 : 2. After the shaded part is cut out, the ratio of the unshaded part of the rectangle to the unshaded part of the square becomes 3 : 1. Given that the length of the square is 6 cm, find the area of the shaded part.



Do not write
in this space

Ans: _____ [5m]



16. Cindy had four times as many postcards as Annie. After Cindy gave 20% of her postcards to Jane and Annie gave 10% of her postcards to Jane, the number of Jane's postcards increased by 75%. Jane had 252 postcards in the end. How many postcards did Cindy have at first?

Do not write in this space

Ans: _____ [5m]

17. Box A had $\frac{5}{6}$ as many beads as box B. $\frac{3}{10}$ of box A's beads were transferred to box B. $\frac{2}{5}$ of box B's beads were then transferred to box A. If boxes A and B had 88 beads altogether, how many beads were there in box A at the end?

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Ans: _____ [5m]

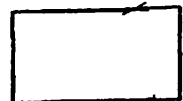
18. Town A and Town B were 395 km apart. At 6 a.m., a car started travelling from Town A to Town B at a constant speed of 60 km/h. At 6.20 a.m., a motorcycle started travelling from Town B to Town A at a constant speed of 90 km/h.

Do not write
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- a) At what time did they pass each other?
- b) How far away was the car from Town B when it passed the motorcycle?

Ans: a) _____ [3m]

b) _____ [2m]



END OF PAPER _____

ANSWER SHEET

EXAM PAPER 2011

SCHOOL : NAN HUA PRIMARY
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

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

- 16)0.86 17)225% 18)4 19)7y+12 20)D
- 21)5.65 22)125 23)120 24)7.49p.m 25)40%
- 26)2h 30min 27)6 28)P and R 29)45 sweets 30)40 stickers

Paper 2

<p>1)breadth→(60%)→18cm Length(100%)→(18/60 x 100)cm =30cm Perimeter→18cm+18cm+30cm+30cm =96cm The perimeter of rectangle is 96cm</p>	<p>2)3 ÷ 4/15 = 11R 1 He can make a maximum of 11 headbands</p>
<p>3)6X + 3 = 7X - 5 →6X + 3 + 5 = 7X =6X + 8 = 7X X → 8 6X + 3 = 6 x 8 + 3 = 51 cards Ray has 51 cards.</p>	<p>4)area of shaded figure→(1/2 x 2 x 8)cm² = 8cm² The area of the shaded figure is 8cm²</p>
<p>5)80%-->\$56 100%-->\$56/80 x 100 = \$70 The original price of the pair of jeans is \$70</p>	<p>6)7u - 6u = 1u 1u→10 5u→50 Mary had 50 sweets at first</p>
<p>7)a)Jack→80 Samuel→16p Dave→16p - 7 Dave have (16p - 7)marbles.</p>	<p>7)b)total→8p + 16p + 16p - 7 = 40p - 7 They had (40p - 7)marbles altogether</p>

<p>8) $9u - 4u = 5u$ $5u \rightarrow 30$ $1u \rightarrow 6$ $9u \rightarrow 54$ Kathy has 54 pencils at first</p>	<p>9) Length $\rightarrow 4 \times 4\text{cm} = 16\text{cm}$ Breadth $\rightarrow 2 \times 4\text{cm} = 8\text{cm}$ Height $\rightarrow 3 \times 4\text{cm} = 12\text{cm}$ Volume $\rightarrow (16 \times 8 \times 12)\text{cm}^3 = 1536\text{cm}^3$ The volume of the cuboid is 1536cm^3</p>						
<p>10) a) $D \rightarrow (S \times T)\text{m} = (400 \times 45)\text{m}$ $= 18000\text{m}$ $T \rightarrow 45\text{min}$ $S \rightarrow 400\text{m}/\text{min}$ The distance of the cycling competition is 18000m. b) $D \rightarrow 18000\text{m} - 900\text{m} = 17100\text{m}$ $S \rightarrow D/T\text{m}/\text{min} = 17100/45$ $= 380\text{m}/\text{min}$ Laura's average speed is $380\text{m}/\text{min}$</p>	<p>11) <u>Before</u> total $\rightarrow 36$ boys ($5u$) $\rightarrow 5/9 \times 36 = 20$ girls ($4u$) $\rightarrow 4/9 \times 36 = 16$ <u>After</u> girls $\rightarrow 16$ boys $\rightarrow 20 + 2 = 22$ total $\rightarrow 16 + 22 = 38$ $16/38 = 8/19$ $8/19$ of the class are girls.</p>						
<p>12) a) $22u - 15u = 7u$ $7u \rightarrow \\$14$ $1u \rightarrow \\$2$ Pen ($6u$) $\rightarrow \\$2 \times 6 = \\12 The pen cost $\\$12$ b) total ($15u + 6u + 22u = 43u$) $\rightarrow 43 \times \\$2 = \\86 The total cost of the 3 item is $\\$86$</p>	<p>13) $3/4$ of cheese cookies + $1/2$ of chocolate cookies $\rightarrow 480 - 160 = 320$ $1/4$ of cheese cookies + $1/2$ of chocolate cookies $\rightarrow 160$ $3/4 - 1/4 = 2/4$ $2/4$ of cheese cookies $\rightarrow 320 - 160 = 160$ total cheese cookies $\rightarrow 160 \times 2 = 320$ She baked 320 cheese cookies.</p>						
<p>14) 1 set $\rightarrow (2 \times 20c) + (6 \times 50c) + (7 \times \\$1)$ $= \\$10.40$ There are $(\\$156 \div \\$10.40 = 15)$ sets alt Total no. of coins $\rightarrow 15 \times (2 + 6 + 7) = 225$</p>							
<p>15) unshaded part of rectangle : unshaded part of square</p> <table style="margin-left: 40px;"> <tr> <td style="padding-right: 20px;">$3p$</td> <td style="padding-right: 20px;">:</td> <td>$1p$</td> </tr> <tr> <td>$4.5u$</td> <td>:</td> <td>$1.5u$</td> </tr> </table> <p>$5u - 3p = 2u - 1p$ $\rightarrow 5u - 3p + 1p = 2u$ $\rightarrow 5u - 2p = 2u$ $3u \rightarrow 2p$</p> <p>Area of square $\rightarrow (6 \times 6)\text{cm}^2 = 36\text{cm}^2$ Shaded part $\rightarrow 36\text{cm}^2 \div 4 = 9\text{cm}^2$ The area of the shaded part is 9cm^2</p>		$3p$:	$1p$	$4.5u$:	$1.5u$
$3p$:	$1p$					
$4.5u$:	$1.5u$					
<p>16) $175\% \times J \rightarrow 252$ $75\% \times J \rightarrow 252/175 \times 75 = 108$ $90u \rightarrow 108$ $400u \rightarrow 108/90 \times 400 = 480$ Cindy had 480 postcards at first.</p>	<p>17) $22u \rightarrow 88$ $13u \rightarrow 88/22 \times 13 = 52$ There were 52 beads in box A in the end.</p>						

18)a) $20\text{min} = \frac{1}{3}\text{h}$

$$\frac{1}{3} \times 60\text{km} = 20\text{km}$$

$$\text{Combined speed} \rightarrow 60\text{km/h} + 90\text{km/h} = 150\text{km/h}$$

$$\text{Total distance} \rightarrow 395\text{km} - 20\text{km} = 375\text{km}$$

$$\text{Time taken for them to meet} \rightarrow 375/150\text{h} = 2\text{ h } 30\text{ min}$$

$$2\text{ h } 30\text{ min after } 6.20\text{a.m.} = 8.50\text{a.m.}$$

b) $6\text{ a.m. to } 8.50\text{a.m.} = 2\text{h } 50\text{min} = \frac{25}{6}\text{h}$

$$\left(\frac{25}{6} \times 60\right)\text{km} = 170\text{km}$$

$$395\text{km} - 170\text{km} = 225\text{km}$$