INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE ONE
PILOT PAPER
QUESTION BOOKLET
DURATION: 1 HOUR 15 MINUTES   TIME: 08:30 -09:45
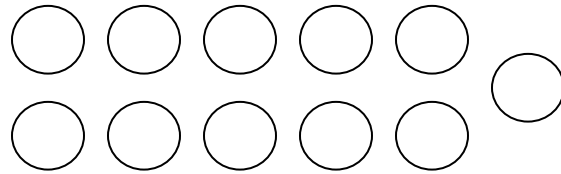**MARKS: 20**
NAME OF LEARNER:_____

NAME OF SCHOOL:_____

INSTRUCTIONS TO LEARNERS:
1. You are expected to answer 15 questions.
2. These are multiple choice questions. Circle the correct answer.
3. Use blank pages for working. Circle the answer after you have done the working.
4. You are not allowed to use the calculator.
5. Read the question carefully before answering. Don't rush.
6. Your teacher will read the question to you.
7. First 10 questions – 1 mark each.
8. Questions 11-20: 2 marks each.

ENJOY THE OLYMPIAD

1. **Count the number of circles in this arrangement.**

(A) 9   (B) 10   (C) 11

2. **Which number is the largest ?**

45;   54; 51

(A) 54   (B) 51   (C) 45

3. **Which number is out of order ?**

24;   22; 26; 28

(A) 22   (B) 26   (C) 28

4. **Give the value of ☐ in this addition problem.**

$$
\begin{array}{r}
4\ 3 \\
+\ 2\ \square \\
\hline
7\ 0 \\
\hline
\end{array}
$$

(A)   5   (B) 6   (C)   7

5. **Give the next number in this pretty pattern(adding 3)**

   6; 9; 12; 15;……

   (A)   18   (B)   17   (C)   16

6. **Find the value of** ☐

   24 + 6 = 20 + ☐

7. **Look at this pretty square**

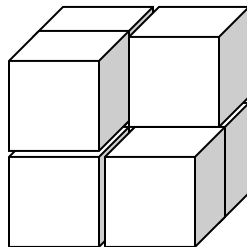| 1	2	3	4
5	6	º7	8
9	10	11	12
13	14	15	16

   A coin was placed at 7 .
   It was moved two(2) places to the left; one(1) place down
   and one(1) place to the right.
   On which numbered square is the coin ?
   (A)   9   (B)   10   (C)   11

8. **How many blocks are there in this stack ?**

   (A)   6   (B)   7   (C)   8

9. **Double the number ' 7' and take away 3 from the**
   answer . What will the number now be ?
   (A)   11   (B)   12   (C)   13

10. **You are given 3 plastic number digits 2; 4 and 5 .**
    How many different 3 digit numbers can be made ?
    (A) 3   (B) 6   (C) 9

11. **After giving ½ the number of health biscuits to her**
    friends Patricia has 14 left.
    How many biscuits did Patricia start off with ?
    (A) 26   (B) 28   (C) 30

12. **Sipho had to take 5ml of medicine in the morning,**
    midday and in the afternoon (3 times per day).
    How much of medicine did Sipho take in 5 days ?
    (A) 75ml   (B) 60ml   (C) 45ml

13. **Lesley saw the time on the clock.**
    What time will it be in 10 hours time ?

    (A) 1 o' clock   (B) 2 o' clock   (C) 3 o' clock

14. **If 296 + 194 = 490 then what is the answer to**
    286 + 174
    (A) 480   (B) 470   (C) 460

15. **Pam makes 1 paper jet every 5 minutes.**
    Tweedie makes 2 paper jets every 15 minutes.
    They continue to work like this.
    If they made 60 paper jets then how many paper
    Jets did Tweedie make ?
    (A) 20   (B) 30   (C) 40

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE TWO
PILOT PAPER
QUESTION BOOKLET
DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**
MARKS: 20
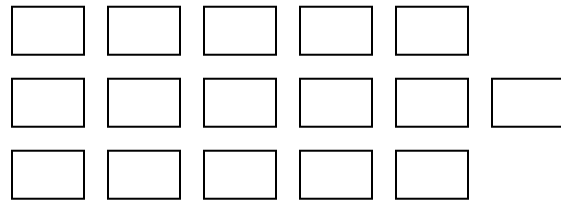**NAME OF LEARNER:**   _____

NAME OF SCHOOL: _____

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8.   Questions 11-20: 2 marks each.

ENJOY THE OLYMPIAD

1. **Count the number of rectangles in this arrangement:**

   (A)   15   (B)   16   (C)   17

2. **Find the value of** ☐

   $$33 + 17 = 30 + \boxed{}$$

   (A)   10   (B)   15   (C)   20

3. **Find ½ of 36.**
   (A)   18   (B)   48   (C)   72

4. **Double 24 equals:**
   (A)   12   (B)   24   (C)   48

5. **Write down the value of** ☐ **in the following addition problem :-**

   $$\begin{array}{r} 3\ 4 \\ +\ \boxed{}\ 8 \\ \hline 9\ 2 \\ \hline \end{array}$$

   (A)   4   (B)   5   (C)   6

6. **After giving 12 oranges to her friends Thandi still had 9 oranges left. How many oranges did she start off with?**
   (A)   3   (B)   21   (C)   30

7. Write down the value of ☐ in the subtraction problem:

$$\begin{array}{r} 4\ 5 \\ -\ 2\ \square \\ \hline 1\ 8 \\ \hline \end{array}$$
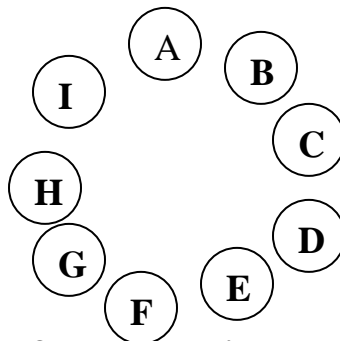
(A) 6   (B) 7   (C) 8

8. There are 24 numbered blocks below:-

1	2	3	4	5	6
7	ᴶ8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

J moved 3 blocks to the right, 2 blocks down and 1 block left. On which block is J now on ?
(A) 15   (B) 16   (C) 22

9.

Sweety moves from one circle to the next (A to B to C to D and so on).
Sweety visited 49 circles starting from A.
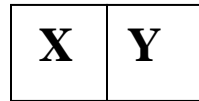Which circle did Sweety end up in ?
(A) B   (B) C   (C) D

10. **Links and Chains**
   Double the number each time to move from one block to the other. Give the number in block 4.

   1.   2.   3.   4.

   | 5 | → | | → | | → | |
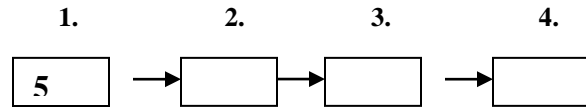
   (A) 40   (B) 30   (C) 20

11. **Find the mystery number.**

   | X | Y |

   *This is a 2 digit number.
   * X is double Y.
   * X + Y = 9
   (A) 45   (B) 36   (C) 63

12. **After giving ¼ of his sweets Les still had 24 sweets. How many sweets did Les give away ?**
   (A) 32   (B) 24   (C) 8

13. **Pearl had 3 teaspoons of 5ml of medicine each day. After 5 days how much of medicine is left in the 100 ml container ?**
   (A) 20ml   (B) 25ml   (C) 30ml

14. **Mandy is 2 years older than Betsy. Betsy is 3 years younger than Carol. If Carol is 9 years old then what is Mandy's age ?**
   (A) 8   (B) 10   (C) 12

15. **The following is in balance.**

   Which is the heaviest ?
   (A) □   (B) △   (C) ○

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE THREE
PILOT PAPER
QUESTION BOOKLET
DURATION: 1 HOUR 15 MINUTES   TIME: 08:30 -09:45
MARKS: 20
NAME OF LEARNER:_____

NAME OF SCHOOL:_____

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8. Questions 11-20: 2 marks each.
                 ENJOY THE OLYMPIAD

1. **Find the value of** ☐ **to make this sentence true.**

   $$6 + \square + 10 = 20$$

   (A) 4   (B) 5   (C) 6

2. **My cellphone number is 0835915935.**
   The sum of the digits of my cellphone number is…
   (A)   46   (B)   48   (C)   50

3. **Write down the 6th number of this pretty number pattern:-**
   7; 10; 13; 16;…
   (A) 20   (B)   21   (C)   22

4. **Temba counted in 2's as follows:-**
   2; 4; 6; 8;….
   He stopped at the 51st number.
   What number did he count last ?
   (A)   100   (B)   102   (C)   104

5. **Which number is out of order ?**
   1; 2; 4; 7; 16; 22; 11; 29.
   (A)   11   (B)   22   (C)   29

6. **Mpume needs R95 to buy a mathematics game. She had one R50 note, three R10 notes and a R5 coin.**
   How much more does she need to buy this game ?
   (A) R5   (B)   R10   (C)   R20

7. **Jeremy receives R14 every week as spending money.**
   How much money does he receive in one month (4 weeks)?
   (A) R56   (B)   R60   (C)   R64

8. **The total number of cubes in this arrangement is…**
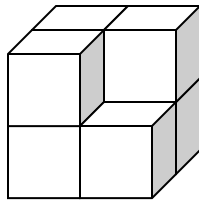
   (A) 5   (B) 6   (C) 7

9. If $10 \times \square = 80$ then what is

$5 \times \square$

(A) 20   (B) 40   (C) 6

10. How many numbers in the rectangles below give an answer less than 300 when multiplied by 10 ?

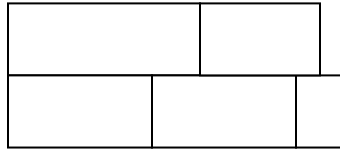| 22 | | 34 | | 19 | | 28 | | 41 |

(A)   1   (B) 2   (C) 3

11. How many rectangles of all sizes are there in this figure ?

(A)   11   (B) 9   (C) 7

12.   A   B

   C   D

There are 24 trees on each of sides AB and CD.
There are 18 trees on each of sides AC and BD.
At each corner A;B:C and D there is a tree.
The total number of trees in this arrangement is…
(A)   42   (B) 80   (C) 84

13. In the game below no number must appear more than once in a row or column.
Use only 2; 3 and 4.
What number would be at X ?

2	4	
4	3	
		X

(A)   4   (B)   3   (C)   2

14. Guess the number I stand for:-
* I am a 3 digit number.
* My unit's digit is 3 more than my ten's digit.
* The sum of my digits is 17.
* My ten's digit is 2 less than my hundred's digit.
(A)   358   (B)   647   (C)   467

15. Each of four girls play only one code of sport .
The codes that are played are ; soccer; netball; volleyball and basketball.
*Sandy does not play soccer.
*Penny does not like volleyball and basketball.
*Lindiwe plays netball.
* Devi used to play basketball.
Who plays basketball ?
(A) Devi   (B) Sandy   (C) Penny

END

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE ONE
ROUND ONE PAPER: 2006
QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**
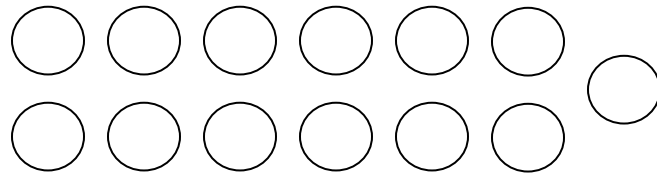
MARKS: 20

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NAME OF SCHOOL:_____

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ENJOY THE OLYMPIAD

1. **Count the number of circles in this arrangement.**

   (A) 11   (B) 12   (C) 13

2. **Which number is the largest ?**

    56;   65;   57

   (A) 65   (B) 56   (C) 57

3. **Which number is out of order ?**

    12;   16; 14; 18

   (A) 14   (B) 16   (C) 18

4. **Give the value of ☐ in this addition problem.**

$$
\begin{array}{r}
5\ 6 \\
+\ 2\ \square \\
\hline
8\ 0 \\
\hline
\end{array}
$$

   (A)   2   (B) 4   (C) 6

5. **Give the next number in this pattern(adding 4)**

    5; 9; 13; 17;……

   (A) 21   (B) 20   (C) 19

6. **Find the value of** ☐

36 + 4 = 30 + ☐
(A) 5   (B) 10   (C) 15

7. **Look at this pretty square**

1	2	3	4º
5	6	7	8
9	10	11	12
13	14	15	16

A coin was placed at 4 .
It was moved three(3) places to the left; two(2) places
down and one(1) place to the right.
On which numbered square is the coin ?
(A) 9   (B) 10   (C) 11

8. **How many blocks are there in this stack ?**
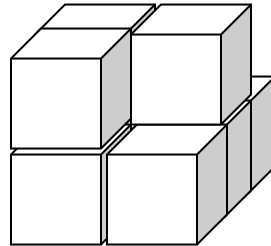
(A) 9   (B) 10   (C) 11

9. **Double the number ' 8 ' and take away 5 from the
answer . What will the number now be ?**
(A) 10   (B) 11   (C) 12

10. **You are given 3 plastic number digits 2; 4 and 5 .
How many different 2 digit numbers can be made ?**
(A) 3   (B) 6   (C) 9

11. After giving ½ the number of health biscuits to her
friends Patricia has 16 left.
How many biscuits did Patricia start off with ?
(A) 28   (B) 30   (C) 32

12. Sipho had to take 5ml of medicine in the morning,
midday and in the afternoon (3 times per day).
How much of medicine did Sipho take in 14 days ?
(A) 150ml   (B) 140ml   (C) 100ml

13. Lesley saw the time on the clock.
What was the time 10 hours ago ?
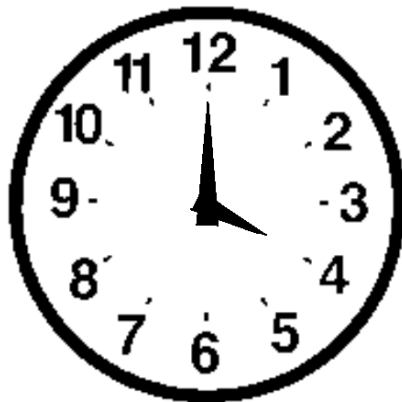
(A) 5 o' clock   (B) 6 o' clock   (C) 7 o' clock

14. If 454 + 532 = 986 then what is the answer to
464 + 522
(A) 986   (B) 976   (C) 966

15. Pam makes 2 paper jet every 5 minutes.
Tweedie makes 3 paper jets every 15 minutes.
They continue to work like this.
How many paper jets will both make in 1 hour ?
(A) 30   (B) 36   (C) 42

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS OLYMPIAD
GRADE TWO
ROUND ONE PAPER:2006
QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**

MARKS: 20

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NAME OF SCHOOL: _____

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ENJOY THE OLYMPIAD

5. Count the number of rectangles in this arrangement:
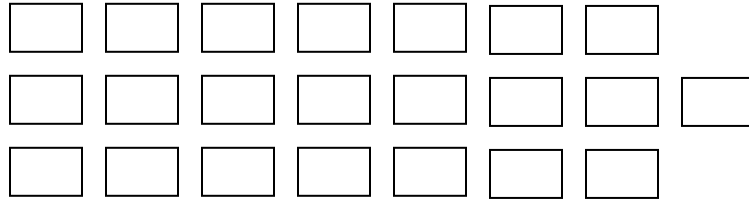
    (A) 21   (B) 22   (C) 23

6. Find the value of ☐

$$43 + 27 = 60 + ☐$$

    (A) 10   (B) 15   (C) 20

7. Find ½ of 48.
    (A) 24   (B) 30   (C) 36

8. Double 28 equals:
    (A) 14   (B) 28   (C) 56

5. Write down the value of ☐ in the following addition problem :-

$$
\begin{array}{r}
4\ 8 \\
+\ ☐\ 6 \\
\hline
8\ 4 \\
\hline
\end{array}
$$

    (A) 2   (B) 3   (C) 4

6. After giving 15 oranges to her friends Thandi still had 10 oranges left. How many oranges did she start off with?
    (A) 5   (B) 25   (C) 35

7. Write down the value of ☐ in the subtraction problem:

$$
\begin{array}{r}
5\ 4 \\
-\ 2\ \square \\
\hline
2\ 8 \\
\hline
\end{array}
$$

(A) 5   (B) 6   (C) 7

8. There are 24 numbered blocks below:-

1	2	ᴶ3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

J moved 3 blocks to the right, 2 blocks down and 1 block left. On which block is J now on ?
(A)   16   (B)   17   (C)   18

9.
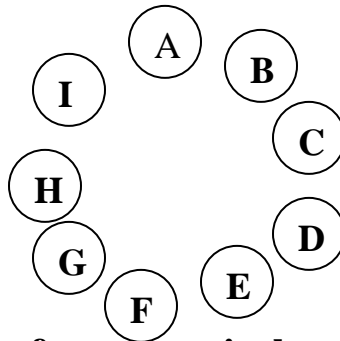
Sweety moves from one circle to the next (A to B to C to D and so on).
Sweety visited 68 circles starting from A.
Which circle did Sweety end up in ?
(A) D   (B) E   (C) F

10.   Links and Chains
Double the number each time to move from one block to the other

1.	2.	3.	4.
7			

11. **Find the mystery number.**

X	Y

*This is a 2 digit number.
* X is double Y.
* X + Y = 9
(A) 45   (B) 36   (C) 63

12. **After giving ¼ of his sweets Les still had 24 sweets.**
How many sweets did Les give away ?
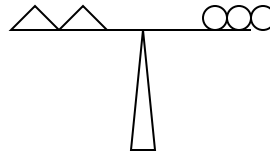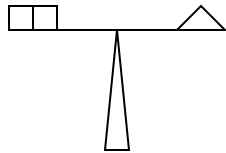(A) 32   (B) 24   (C) 8

13. **Pearl had 3 teaspoons of 5ml of medicine each day.**
After 5 days how much of medicine is left in the
100 ml container ?
(A) 20ml   (B) 25ml   (C) 30ml

14. **Mandy is 2 years older than Betsy.**
Betsy is 3 years younger than Carol.
If Carol is 9 years old then what is Mandy's age ?
(A) 8   (B) 10   (C) 12

15. **The following is in balance.**

Which is the heaviest ?
(A) □   (B) △   (C) ○

**INSTITUTE FOR ADVANCEMENT OF MATHEMATICS
AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE ONE
FINAL ROUND PAPER: 2006
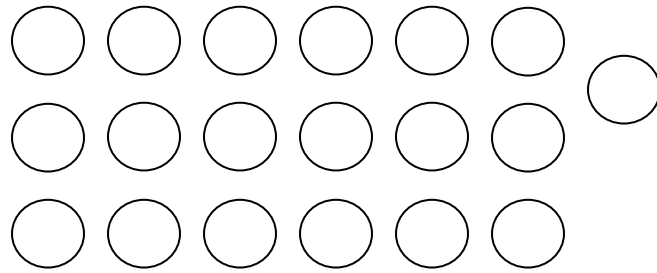QUESTION BOOKLET**

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**
MARKS: 20   **DATE: 11 OCTOBER
2006**

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8. **Questions 11-20: 2 marks each.**

ENJOY THE OLYMPIAD

1. **How many circles are there in this arrangement ?**

2. **Which number is the smallest ?**

   73;   69;   86

3. **Write down the number which is 7 less than 30.**

4. **Give the value of** ☐ **in this addition problem.**

$$
\begin{array}{r}
6\ 4 \\
+\ \square\ \square \\
\hline
1\ 5\ 2 \\
\hline
\end{array}
$$

5. **Give the next number in this pattern.**
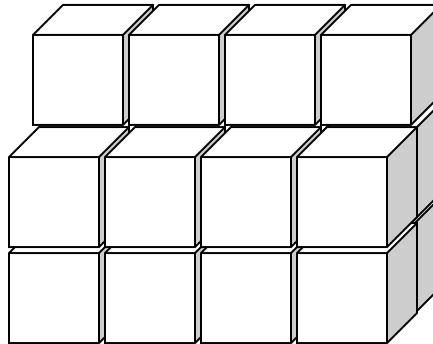
   6; 11; 16; 21;……

6. **Find the value of** ☐

   37 = ☐ + ☐ + ☐

7. Teaser counted in 5's as follows:-

5; 10; 15; 20; 25; . . .
Write down the 12th number counted by Teaser.

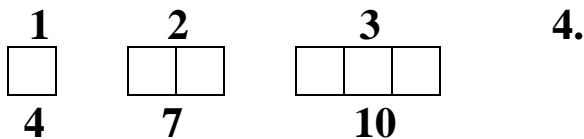8. How many blocks are there in this stack ?

9. 3 energy bars cost R20.
How many energy bars could you get for R80 ?

9. At a supermarket you could buy 5 pencils for the same
price as 3 pens. Deon bought 15 pens .
How many pencils could he get ?

11.

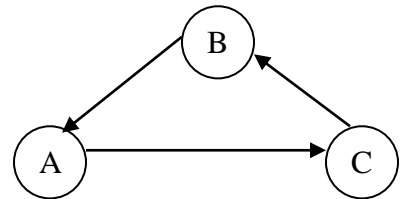| 1	2	3	4.
4	7	10	

4 matchsticks are used to make 1 square.
7 matchsticks are used to make 2 squares.
10 matchsticks are used to make 3 squares.
How many matchsticks are used to make the 10th
figure ?

12. Mandy has 2 secret numbers in the 2 envelopes.
When she added the 2 numbers she had 10.
When she doubled the first number and added it to the
second number she had 17. What is the smaller secret
number ?

13. A taxi makes 3 stops each time in one round trip. If the
taxi made 73 stops in one week then work out the last
stop.

14. Four friends live on the same straight road. Wendy lives
to the right of Larry. Pam lives to the right of Larry.
Wendy lives to the right of Pam.
Princess lives to the right of Wendy.
Who lives between Pam and Princess ?

15. Two red beads are placed between every two blue beads.
There are 20 blue beads.
After looking at the arrangement below work out the
number of red beads.

B R R B R R B R R B . . .

E N D

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS OLYMPIAD
GRADE ONE
FINAL ROUND PAPER: 2006
QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**

**MARKS: 20**   **DATE: 11 OCTOBER 2006**

NAME OF LEARNER:_____

NAME OF SCHOOL:_____

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ENJOY THE OLYMPIAD

1. **How many circles are there in this arrangement ?**
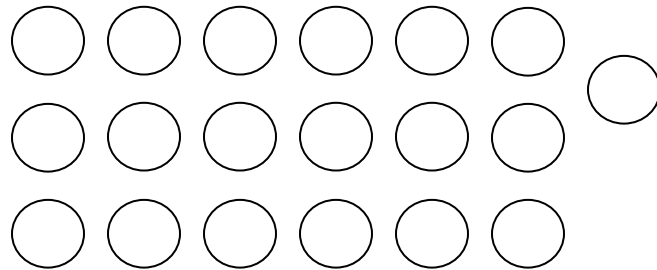
2. **Which number is the smallest ?**

   73;   69;   86

3. **Write down the number which 7 less than 30.**

4. **Give the value of** ☐ **in this addition problem.**

$$
\begin{array}{r}
6\ 4 \\
+\ \square\ \square \\
\hline
2\ 5\ 2 \\
\hline
\end{array}
$$

5. **Give the next number in this pattern.**

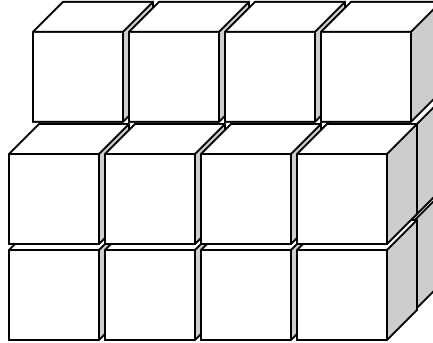   **6; 11; 16; 21;……**

6. **Find the value of** ☐

   38 = ☐ **+** ☐ **+** ☐

7. Teaser counted in 5's as follows:-

5; 10; 15; 20; 25; . . .
Write down the 12th number counted by Teaser.

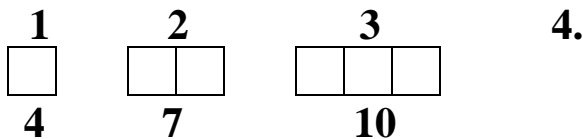8. How many blocks are there in this stack ?

9. 3 energy bars cost R20.
How many energy bars could you get for R80 ?

10. At a supermarket you could buy 5 pencils for the same
price as 3 pens. Deon bought 15 pens .
How many pencils could he get ?

11.

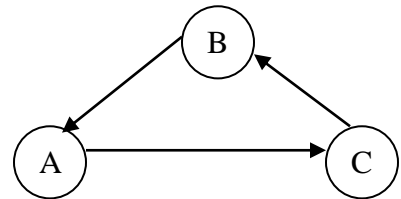| 1	2	3	4.
4	7	10	

4 matchsticks are used to make 1 square.
7 matchsticks are used to make 2 squares.
10 matchsticks are used to make 3 squares.
How many matchsticks are used to make the 10th
figure ?

12. Mandy has 2 secret numbers in the 2 envelopes.
When she added the 2 numbers she had 10.
When she doubled the first number and added it to the
second number she had 17. What is the smaller secret
number ?

13. A taxi makes 3 stops each time in one round trip. If the
taxi made 73 stops in one week then work out the last
stop.

14. Four friends live on the same straight road. Wendy lives
to the right of Larry. Pam lives to the right of Larry.
Wendy lives to the right of Pam.
Princess lives to the right of Wendy.

15. Two red beads are placed between every two blue beads.
There are 20 blue beads.
After looking at the arrangement below work out the
number of red beads.

B R R B R R B R R B . . .

E N D

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS OLYMPIAD
GRADE TWO
FINAL ROUND PAPER: 2006
QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**
MARKS: 20   **DATE: 12 OCTOBER 2006**

INSTRUCTIONS TO LEARNERS:
1. **You are expected to answer 15 questions.**
2. **Use the answer booklet for your answers.**
3. **Use the space provided for your working.**
4. **You are not allowed to use the calculator.**
5. **Read the question carefully before answering. Don't rush.**
6. **Your teacher will read the question to you.**
7. **First 10 questions – 1 mark each.**
8. **Questions 11-20: 2 marks each.**

ENJOY THE OLYMPIAD

1. **Write down the 7th term of the sequence:-**

   7; 10; 13; 16; . . .

2. **Write down the unit's digit of the 45th number.**

   5; 10; 15; 20; . . .

3. **Terry counted in 2's as follows:-**

   2; 4; 6; 8; 10; . . .

   What position does the number 130 occupy ?

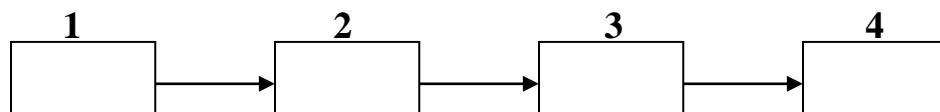4. **Each letter in the following addition problem represents a digit.**
   Find the digit B ?

$$
\begin{array}{r}
A\ A \\
+\ B\ A \\
\hline
1\ 1\ 2
\end{array}
$$

4. **Find the value of** ☐

   45 - ☐ **=** ☐ **+** ☐ **+** ☐ **+** ☐ **+** ☐ **-** ☐

5. **To move from one block to the next the rule is double the number and**
   subtract one.

1	2	3	4
☐ →	☐ →	☐ →	☐

   What number is in block one ?

6. Give the largest two digit even number such that the sum
   of the digits is 9 .

8. How many blocks are there in this stack ?
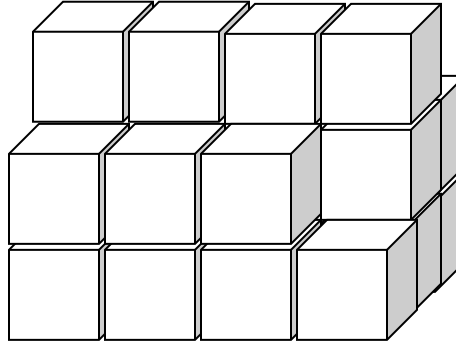
9. 2 more than ¼ of the cakes is 6.
    How many cakes are there ?

10. Guess the number I stand for.
      * I am a 3 digit number.
      * My hundred's digit is 1 more than my unit's digit.
      * My ten's digit can be counted in 3's.
      * The sum of my digits is 16.

11. Try to find out what * is doing to the 2 numbers.
                3 * 4 = 5   7 * 3 = 8
                1 * 1 = 0   4 * 4 = 6

     Now determine the answer to :-
               8 * 5

12. In a 50 metre race Jen beat Tara by 4 metres. Tara beat
    Cindy by 3 metres.
    If all three walk at the same pace then how far will
    Cindy be behind Jen in a 100 metre race ?

13. **White and green beads are arranged as in the following diagram.**

   W W G G G W W G G G W W ....

   If this arrangement as 102 beads then work out the number of green beads .

14. **Five friends live on the same straight road. Ren lives to the right of Lindy. Pat lives to the right of Lindy but to the left of Jessy. Al lives to the left of Lindy. Pat lives between Al and Ren.**
    Who lives between Pat and Jessy ?

15. **Stan collected R10 more for charity than Liz.**
    Liz collected R20 less for charity than Connie.
    A total of R270 was collected for charity.
    What amount was collected by Liz ?

E N D

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND   SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS OLYMPIAD
GRADE THREE
FINAL ROUND PAPER: 2006
QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**
MARKS: 20   **DATE: 11 OCTOBER 2006**

INSTRUCTIONS TO LEARNERS:
1. You are expected to answer 15 questions.
2. Use the answer booklet for your answers.
3. Use the space provided for your working. Write your answer in the block.
4. You are not allowed to use the calculator.
5. Read the question carefully before answering. Don't rush.
6. Your teacher will read the question to you.
7. First 10 questions – 1 mark each.
8. Questions 11-20: 2 marks each.

ENJOY THE OLYMPIAD

1. **What is the 12th number of this sequence ?**

   5 ; 9; 13 ; 17 ; . . .

2. **Virginia counted in 3's as follows:-**

   3; 6; 9; 12; . . .
   She stopped at the 51st number.
   What number did she count last ?

3. **Find the value of** ▢

   ▢ **+** ▢ **+** ▢ **-** △ **= 24 +** ▢ **-** △

4. **Each letter in the following subtraction problem represents a digit.**
   What is the value of B ?

$$\begin{array}{r} A\ A \\ -\ \underline{B\ 8} \\ \underline{2\ 8} \end{array}$$

5. **Mandy said that $\frac{3}{4}$ of the health biscuits is 33.**

   What is the total number of health biscuits ?

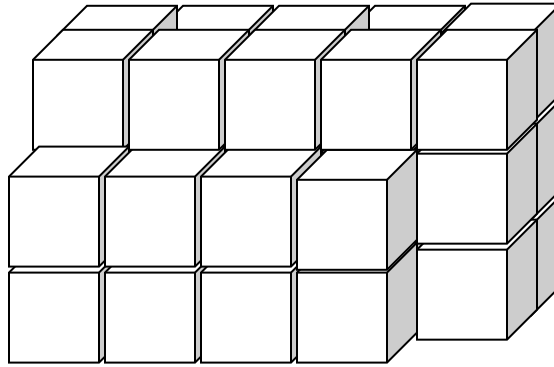6. **Matchsticks are used to make the following blocks :-**
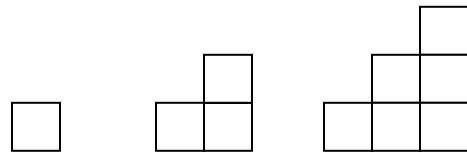
   1   3   6

   How many blocks are there in the 9th figure ?

7. **How many blocks are there in this stack ?**

8. **4 different counting numbers(starting from 1) were added to give 56 . What is the largest possible number that could have been added ?**

9. **Ben makes 3 paper jets in 10 minutes.**
   Victoria makes 4 paper jets in 20 minutes.
   If both work together and at the same rate then how many paper jets could be made in 1 hour.

10. **Guess the number I stand for:-**
    * **I am a 3 digit number.**
    * **My unit's digit is 3 more than my hundred's digit.**
    * **My ten's digit is the same as my unit's digit.**
    * **The sum of my digits is 18.**

11. **Try to work out what # is doing to the 2 numbers.**

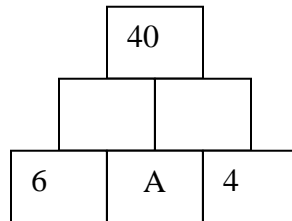 $$3 \# 1 = 5 \qquad 4 \# 4 = 4$$
    $$3 \# 3 = 3 \qquad 6 \# 2 = 10$$

    Now find the answer to :-
    $$9 \# 3$$

12. In the following game the rule is double the number in the left block
and add to the number in the right block to give the number in the block above it.

```
        ┌──────┐
        │  40  │
      ┌─┴──┬───┴┐
      │    │    │
   ┌──┴─┬──┴─┬──┴─┐
   │ 6  │ A  │ 4  │
   └────┴────┴────┘
```

Find the number in block A.

13. Who is the tallest ?
Al is shorter than Sipho.
Jerry is taller than Frank.
Frank is taller than Al.

14. Calculate:-
$100 - 98 + 96$ - 94 + 92 - $90 + \ldots + 4 - 2.$

15. There are 4 envelopes as follows:-

1	2	3	4

* Envelope 2 has R6 more than envelope 1.
* Envelope 3 has R6 more than envelope 2.
* Envelope 4 has R6 more than envelope 3.
All four envelopes have R196.
Determine the amount of money in envelope 1.

E N D

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE ONE
ROUND ONE PAPER: 2007
QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**
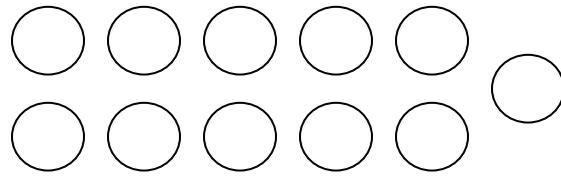**MARKS: 20**
NAME OF LEARNER:_____

NAME OF SCHOOL:_____

INSTRUCTIONS TO LEARNERS:
1. You are expected to answer 15 questions.
2. These are multiple choice questions. Circle the correct answer.
3. Use blank pages for working. Circle the answer after you have done the working.
4. You are not allowed to use the calculator.
5. Read the question carefully before answering. Don't rush.
6. Your teacher will read the question to you.
7. First 10 questions – 1 mark each.
8. Questions 11-20: 2 marks each.

             ENJOY THE OLYMPIAD

1. Count the number of circles in this arrangement.

(A) 9   (B) 11   (C) 13

2.   Which number is the smallest ?

78;   69;   96

(A) 78   (B) 96   (C) 69

3. Which number is out of order ?

22;   24;   28;   26;   30

(A) 24   (B) 26   (C) 28

4.   Give the value of ☐ in this addition problem.

$$\begin{array}{r} 3\ 5 \\ +\ \square\ 6 \\ \hline 7\ 1 \\ \hline \end{array}$$

(A)   4   (B) 3   (C) 2

5.   Give the next number in this pattern(adding 5)

7; 12;   17;   22;……

(A) 27   (B) 32   (C) 37

6. **Find the value of** ☐

   $$53 + \boxed{} = 45 + 15$$
     (A) 3   (B) 5   (C) 7

7. **Look at this pretty square**

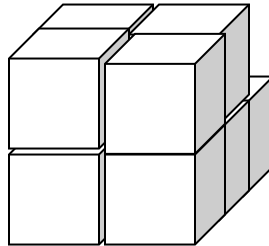| 1	2	3	4
5	6	7	8
9º	10	11	12
13	14	15	16

   A coin was placed at **9** .
   It was moved two(2) places to the right; two(2) places
   upward and one(1) place to the left.
   On which numbered square is the coin ?
   (A) 1   (B) 2   (C) 5

8. **How many blocks are there in this stack ?**

   (A) 8   (B) 9   (C) 11

9. **Treble the number ' 6 ' and take away 4 from the
   answer . What will the number now be ?**
   (A) 10   (B) 12   (C) 14

10. **You are given 3 plastic number digits 3; 5 and 7 .
    How many different 3 digit numbers can be made ?**
    (A) 5   (B) 6   (C) 7

11. After giving 12 health biscuits to her friends Pam $\frac{1}{2}$ the number of health biscuits left.

How many health biscuits did Pam start off with ?
(A) 6   (B) 18   (C) 24

12. Senzo had to take 5ml of medicine in the morning and in the afternoon (2 times per day).
How much of medicine did Senzo take in 14 days ?
(A) 120ml   (B) 140ml   (C) 160ml

13. Tammy saw the time on the clock.
What will the time in 15 hours be ?

(A) 7 o' clock   (B) 8 o' clock   (C) 9 o' clock

14. If 396 + 284 = 680 then what is the answer to
386 + 274
(A) 640   (B) 650   (C) 660

15. Penny makes 2 boxes every 7 minutes.
Tootsie makes 3 boxes every 21 minutes.
They continue to work like this.
How many boxes will both make in 63 minutes ?
(A) 26   (B) 27   (C) 28

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE TWO
ROUND ONE PAPER:2007
QUESTION BOOKLET
DURATION: 1 HOUR 15 MINUTES   TIME: 08:30 -09:45
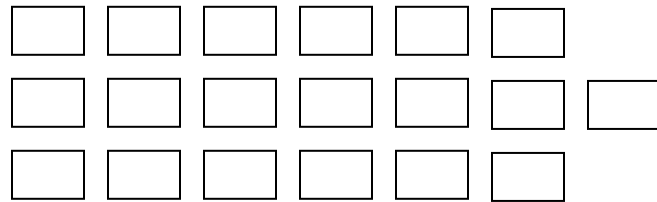**MARKS: 20**
NAME OF LEARNER: _____

NAME OF SCHOOL: _____

INSTRUCTIONS TO LEARNERS:
1. You are expected to answer 15 questions.
2. These are multiple choice questions. Circle the correct answer.
3. Use blank pages for working. Circle the answer after you have done the working.
4. You are not allowed to use the calculator.
5. Read the question carefully before answering. Don't rush.
6. Your teacher will read the question to you.
7. First 10 questions – 1 mark each.
8. Questions 11-20: 2 marks each.
                    ENJOY THE OLYMPIAD

1. **Count the number of rectangles in this arrangement:**

    (A) 17   (B) 19   (C) 21

2. **Find the value of** ☐

    $56 + 34 = 50 +$ ☐

    (A) 40   (B) 50   (C) 60

3. **Find $\frac{1}{2}$ of 36.**

    (A) 16   (B) 18   (C) 20

4. **Double 39 equals:**

    (A) 74   (B) 76   (C) 78

5. **Write down the value of** ☐ **in the following addition problem :-**

$$\begin{array}{r} 5\ \ 3 \\ +\ \square\ \triangle \\ \hline 8\ \ 0 \end{array}$$

    (A) 3   (B) 2   (C) 1

6. **After receiving 18 beads from Precious, Denny had 60 beads. How many beads did she start off with?**

    (A) 32   (B) 36   (C) 42

7. **Write down the value of** ☐ **in the subtraction problem:**

$$\begin{array}{r} 7\ 5 \\ -\ 3\ \square \\ \hline 3\ 8 \\ \hline \end{array}$$

(A) 5   (B) 7   (C) 9

8. **There are 24 numbered blocks below:-**

1	2	3	4	5	6
7	8	9	ᴾ10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

P moved 3 blocks to the left, 2 blocks down and 4 blocks to the right. On which block is P now on ?
(A) 23   (B) 24   (C) 17

9.
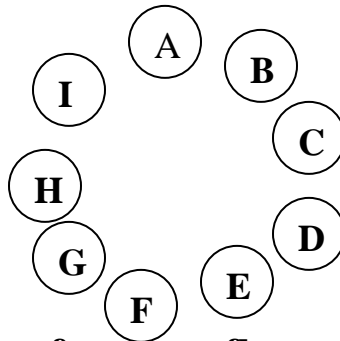
Honeybee moves from one flower to the next in the following   way:-
It started at flower I and moved to flower G and then to flower E(skipping one flower each time). Honeybee visited 50 flowers.
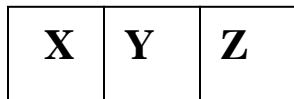 **Which flower did Honeybee end up in ?**
 (A) G   (B) E   (C) C

10. **Links and Chains**
Double the number each time to move from one block to the other . Which number is in block 1 ?

1.	2.	3.	4.
			32

(A) 2   (B) 4   (C) 8

11. **Find the mystery number.**

X	Y	Z
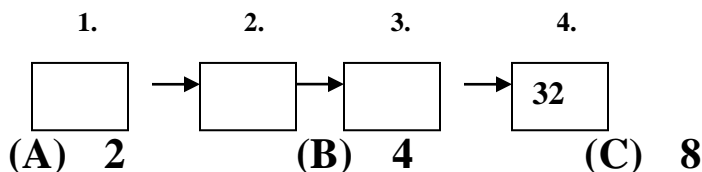
*I am a 3 digit number.
* Y is 1 more than Z.
* X + Z = Y
* X + Y + Z = 10
(A)   165   (B)   154   (C)   343

12. Lily gave 10 sweets to Alvin and $\frac{1}{4}$ to Lee. She still had 26 sweets. How many sweets did Lily start with ?
(A)   45   (B)   48   (C)   54

13. Pearl had 3 teaspoons of 5ml of medicine 2 times each day. After how many days will the medicine of a 200ml container be finished ?
(A)   5 days   (B)   6 days   (C)   7 days
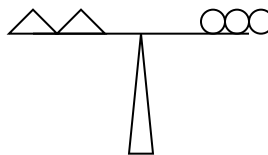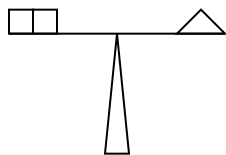
14. Thabo is 3 years older than Bishop.
Bishop is 6 years younger than Jeff.
Jeff is 15 years old. What is Thabo's age ?
(A)   9   (B)   12   (C)   14

15. The following is in balance.

Which is the lightest ?
(A) □   (B) △   (C) ○

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)
NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE THREE
ROUND ONE PAPER:2007
QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   TIME: 08:30 -09:45
**MARKS: 20**
NAME OF LEARNER:_____

NAME OF SCHOOL:_____

INSTRUCTIONS TO LEARNERS:
1. You are expected to answer 15 questions.
2. These are multiple choice questions. Circle the correct answer.
3. Use blank pages for working. Circle the answer after you have done the working.
4. You are not allowed to use the calculator.
5. Read the question carefully before answering. Don't rush.
6. Your teacher will read the question to you.
7. First 10 questions – 1 mark each.
8. Questions 11-20: 2 marks each.
                    ENJOY THE OLYMPIAD

1.   Find the value of ☐ to make this sentence true.

$$40 - ☐ - 8 = 20$$

   (A) 10   (B) 11   (C) 12

2.   My cellphone number is   0833571267.
   The sum of the digits of my cellphone number is…
   (A) 40   (B) 41   (C) 42

5.   Write down the 7th number of this pretty number pattern:-
   6; 11; 16; 21;…
   (A) 36   (B) 41   (C) 46

4.   Thelma counted in 3's as follows:-
   3; 6; 9; 12;….
   She stopped at the 31st number.
   What number did she count last ?
   (A) 87   (B) 90   (C) 93

5.   Which number is out of order ?
   2; 5; 9; 20; 13; 27
   (A) 9   (B) 13   (C) 20

6.   Harry needs R215 to buy a game. He had
   two R50 notes, three R20 notes and a R5 coin.
   How much more does he need to buy this game ?
   (A) R40   (B) R50   (C) R60

7.   Harry receives R36 every week as spending money.
   How much money does he receive in one month (4 weeks)?
   (A) R144   (B) R152   (C) R160

8. The total number of cubes in this arrangement is…
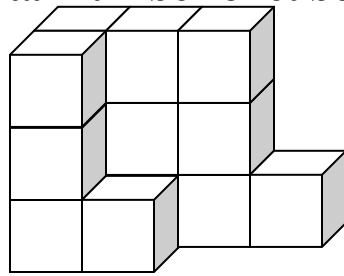
(A) 12   (B) 13   (C) 14

9. If $4 \times \square = 65$ then what is

$8 \times \square$

(A) 120   (B) 130   (C) 140

10. How many numbers in the rectangles below give an answer of more than 200 when multiplied by 5 ?
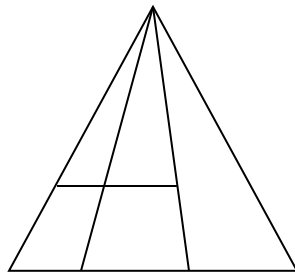
| 40 | 36 | 68 | 24 | 79 |

(A) 2   (B) 3   (C) 4

11. How many triangles of all sizes are there in this figure ?

(A) 8   (B) 9   (C) 10

12.　　**Guess the number I stand for:-**

X	Y	Z

- **I am a 3 digit number.**
- **Y is 3 less than X multiplied by Z.**
- **X + Y + Z = 14**

(A)　**394**　　　　(B)　**296**　　　　(C)　**275**

13.　**For every 3 red beads in a chain there are 2 green beads.**

●●●○○●●●○○●●●○○….

The chain has 70 beads.
How many red beads does this chain have ?
(A)　**28**　　　　　　(B)　**40**　　　　(C)　**42**

14.　**Each of the 4 girls participates in one activity only.**
The activities are swimming; chess; dancing and art.

- **Amy does not swim.**
- **Claire used to play chess and does not like dancing.**
- **Diane does not like dancing.**
- **Bess does well in art.**

Who takes part in chess?
(A)　**Diane**　　　　　　(B)　**Claire**　　(C)　**Amy**

15.　**In the game below no number must appear more than once in a row or column.**
Use only 1;2;3;4;5.
What is X + Y ?

Y	1	X		
	4			
2		4		1
1	3			5
4			1	3

(A)　**7**　　　　　　　　(B)　**8**　　　　(C)　**9**

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS

NATIONAL FOUNDATION PHASE MATHEMATICS
OLYMPIAD
GRADE ONE
FINAL ROUND PAPER: 2007
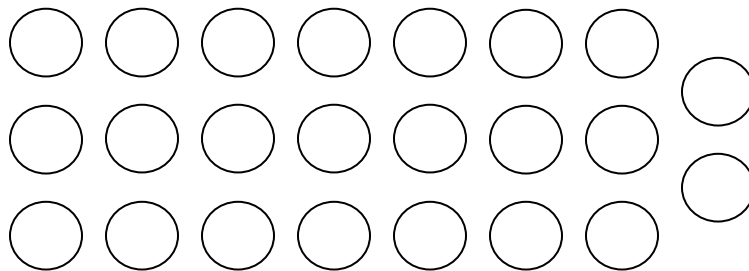# QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**
MARKS: 20   **DATE: 10 OCTOBER 2007**

INSTRUCTIONS TO LEARNERS:
1. You are expected to answer 15 questions.
2. Use the answer booklet for your answers.
3. Use the space provided for your working.
4. You are not allowed to use the calculator.
5. Read the question carefully before answering. Don't rush.
6. Your teacher will read the question to you.
7. First 10 questions – 1 mark each.
8. Questions 11-20: 2 marks each.

ENJOY THE OLYMPIAD

1. How many circles are there in this arrangement ?

2. Which number is 2 less than 71 ?

    73;   69;   86

3. Write down the number which is 9 more than 38.

4. Give the value of ☐ in this addition problem.

$$
\begin{array}{r}
7\ 9 \\
+\ \square\ \square \\
\hline
3\ 2\ 3 \\
\hline
\end{array}
$$

6. Give the next number in this pattern.
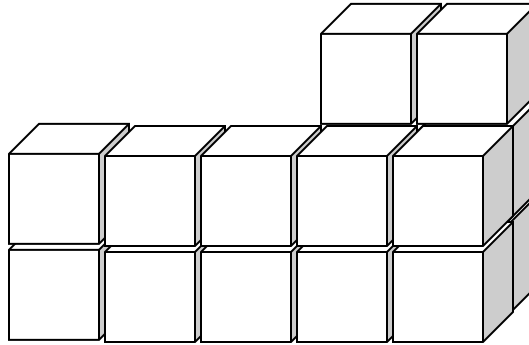
    13;18;23;28;……

7. Find the value of ☐

    48 = ☐ + ☐ + ☐

8. Nellie counted in 5's as follows:-

5; 10; 15; 20; 25; . . .
Write down the units digit of the 20th number.

9. How many blocks are there in this stack ?

10. 5 cans energy drinks cost R16.
How many cans energy drinks could you get for R48 ?

11. At a superstore you could get 2 CD's free for every 5
CD's bought Jerrico received 10 free CD's .
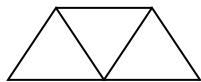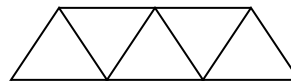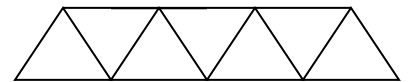**How many CD's did Jerrico pay for ?**

12.   3   7   11
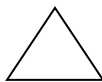
1   2   3   4.

3 matchsticks are used to make 1 triangle.
7 matchsticks are used to make 3 triangles.
**11 matchsticks are used to make 5 triangles.**
How many matchsticks are used to make the 11
triangles ?

12. When two numbers were added Cindy had the answer 30.When one number was doubled and added to the other number the answer was 42. Write down the larger number.

13. When Pretty counted her dolls in 2's she had I left. When she counted her dolls in 3's she had none left. What is the smallest number of dolls Pretty counted ?

14. Tina was given 5 less health sweets than Sipho. Dineo was given 5 more health sweets than Sipho. All three had 42 health sweets. How many health sweets did Dineo have ?

15. Three red beads are placed between every two blue beads. There are 16 blue beads. After looking at the arrangement below work out the number of red beads.

B R R R B R R R B R R R B . . .
Ω ☼ ☼ ☼ Ω ☼ ☼ ☼ Ω ☼ ☼ ☼ Ω …

$$\boxed{\text{E N D}}$$

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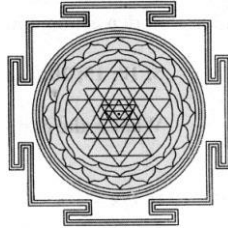
NATIONAL FOUNDATION PHASE MATHEMATICS OLYMPIAD
GRADE TWO
FINAL ROUND PAPER: 2007
QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**

MARKS: 20   **DATE: 11 OCTOBER 2007**

INSTRUCTIONS TO LEARNERS:
1. You are expected to answer 15 questions.
2. Use the answer booklet for your answers.
3. Use the space provided for your working.
4. You are not allowed to use the calculator.
5. Read the question carefully before answering. Don't rush.
6. Your teacher will read the question to you.
7. First 10 questions – 1 mark each.
8. Questions 11-20: 2 marks each.

ENJOY THE OLYMPIAD

1. **Write down the 9th term of the sequence:-**

   7; 11; 15; 19; . . .

2. **Write down the unit's digit of the 80th number.**

   5; 10; 15; 20; . . .

3. **Lindiwe counted in 3's as follows:-**

   3; 6; 9; 12; 15; . . .

   What position does the number 75 occupy ?

4. **Each letter in the following subtraction problem represents a digit.**
   Find the digit B ?

$$
\begin{array}{r}
A\ B \\
+\ B\ A \\
\hline
1\ 8
\end{array}
$$

5. **Find the value of** ☐

   60 - ☐ **=** ☐ **+** ☐ **+** ☐ **+** ☐ **+** ☐

6. **Find the value of** ☐

   ☐ **+** ☐ **+** ☐ **+** ☐ **=** ☐ **+** ☐ **+ 48 +** ☐

7. Reader counted in 9's as follows:-

    9; 18; 27; 36; 45; . . .
    Write down the 45th number .
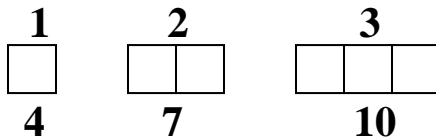8. How many blocks are there in this stack ?
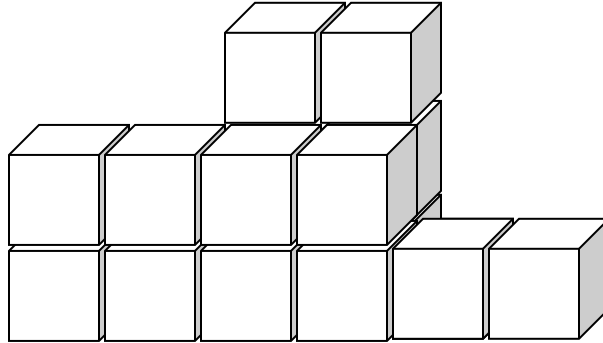
9. 5 health bars cost R23.
    How many health bars could you get for R69 ?

10. It takes 20 minutes to make 7 large boxes using a
    machine.
    It takes 10 minutes to make 3 small boxes using another
    machine. How many more larger boxes can be made in
    one hour if both machines work for one hour?

11.
```
  1        2          3
 ┌─┐     ┌─┬─┐     ┌─┬─┬─┐
 └─┘     └─┴─┘     └─┴─┴─┘
  4        7          10
```
   4 matchsticks are used to make 1 square.
     7 matchsticks are used to make 2 squares.
    10 matchsticks are used to make 3 squares.
    How many squares can be made from 61 matchsticks ?

12. Molly has 2 secret numbers in the 2 envelopes.
When she subtracted the 2 numbers she had 15.
When she doubled the smaller number she found it
was same as the larger number. What is the larger
number?

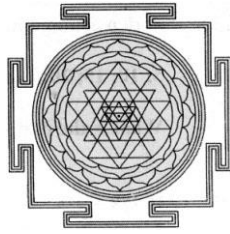13. How many squares of all sizes are there in the figure
below ?
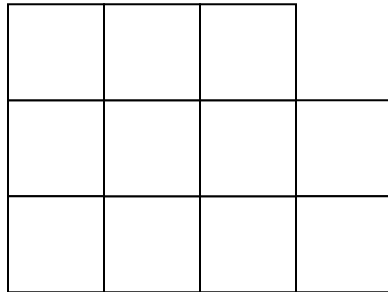
14. Jeremy wrote down all the numbers from 1 to 50.
He then struck off all the numbers that can be counted
in 2's and 3's. How many numbers were not struck off ?

15. Guess the day of the week.
Yesterday was not Tuesday.
Tomorrow is not Tuesday.
The name does not start with S or F.
The day after tomorrow is not Thursday.

E N D

INSTITUTE FOR ADVANCEMENT OF MATHEMATICS AND SCIENCE
(IAMS)

NATIONAL FOUNDATION PHASE MATHEMATICS OLYMPIAD

GRADE THREE
FINAL ROUND PAPER: 2007

QUESTION BOOKLET

DURATION: 1 HOUR 15 MINUTES   **TIME: 08:30 -09:45**
MARKS: 20   **DATE: 10 OCTOBER 2007**

INSTRUCTIONS TO LEARNERS:
1. You are expected to answer 15 questions.
2. Use the answer booklet for your answers.
3. Use the space provided for your working. Write your answer in the block.
4. You are not allowed to use the calculator.
5. Read the question carefully before answering. Don't rush.
6. Your teacher will read the question to you.
7. First 10 questions – 1 mark each.
8. Questions 11-20: 2 marks each.

ENJOY THE OLYMPIAD

1. **What is the 15th number of this sequence ?**

   7 ; 12; 17 ; 22 ; . . .

2. **Virginia counted in 4's as follows:-**

   4; 8; 12; 16; . . .
   She stopped at the 64th number.
   What number did she count last ?

3. **Find the value of** ☐

   ☐ + ☐ + ☐ + △ = **42** + ☐ + △

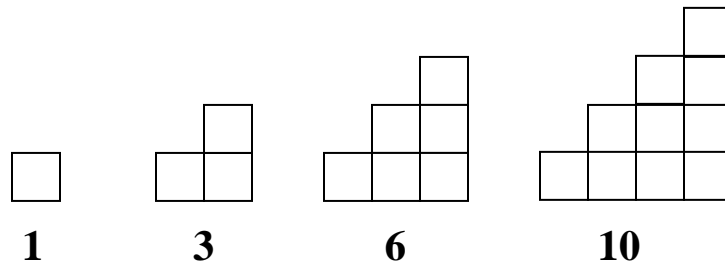4. **Each letter in the following subtraction problem represents a digit.**
   What is the value of A ?

$$
\begin{array}{r}
A\ A\ A \\
-\ B\ 7\ B \\
\hline
1\ 8\ 2
\end{array}
$$

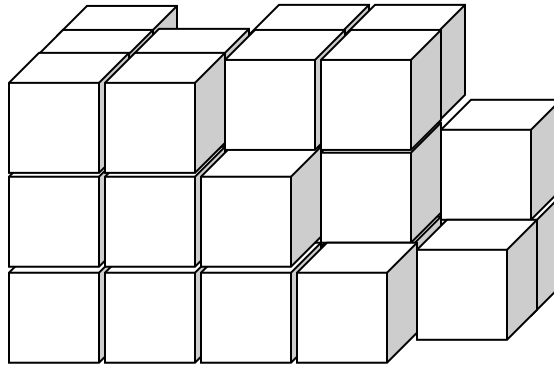5. **Sally said that $\frac{3}{4}$ of the health biscuits is 27.**

   What is half the number of health biscuits ?

6. **Matchsticks are used to make the following blocks :-**

   1   3   6   10

   How many blocks are there in the 10th figure ?

7. **How many blocks are there in this stack ?**

8. **5 different counting numbers(starting from 4) were added to give 70 .**
   What is the largest possible number that could have been added ?

9. **Liz makes 4 cones in 9 minutes.**
   Taz makes 5 cones in 12 minutes.
   If both work together and at the same rate then how many cones could be made in 72 minutes.

10. **Guess the number I stand for:-**
    * **I am a 3 digit number.**
    * **My unit's digit is 1 more than my ten's digit.**
    * **My hundred's digit is 1 less than twice the ten's digit.**
    * **The sum of my digits is 12.**

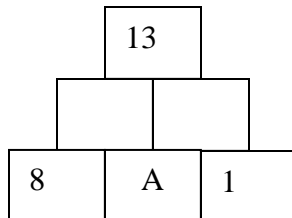11. **Try to work out what # is doing to the 2 numbers.**

   5 # 4 = 7   **1 # 1 = 2**
   2 # 3 = 2   **5 # 5= 6**

   Now find the answer to :-
      10 # 5

12. **In the following game the rule is double the number in the left block and subtract the number in the right block to give the number in the block above it.**

```
      ┌──────┐
      │  13  │
   ┌──┴──┬──┴──┐
   │     │     │
┌──┴──┬──┴──┬──┴──┐
│  8  │  A  │  1  │
└─────┴─────┴─────┘
```

Find the number in block A.

13. **Who collected the most money for charity ?**
    Prince collected R20 more than Fred.
    Bessy collected R20 less than Jenny.
    Fred collected R10 less than Jenny.

14. **Calculate:-**
    10+11+12+13+14+………+48+49+50.

15. **Guess the mystery number in box 3:-**

1	2	3	4

   * The number in box 3 is twice the number in box 1.
   * The number in box 2 is 6 more than box 3.
   * The number in box 4 is 3 less than half the number in box 3.
   The sum of the numbers in all 4 boxes is 75.

END