SUBJECT: MATHS

LANGUAGE: ENGLISH

THIRD ETHIOPIA SCHOOL SURVEY
WAVE: 1

This test booklet contains Mathematics items administered to students in Grades 7 and 8, at Wave 1 of Young Lives' school survey in Ethiopia. This survey took place in 2016-17.

Items were selected following extensive piloting. For more details on item sources and the test development process, see Rossiter et al., (2017). Young Lives School Survey, 2016–17: Ethiopia Country Report.

1 2488 ÷ 8 =

A. 11
B. 311
C. 2480
D. 2496

2 A number added to 35 gives 56.

What is the number?

A. 12
B. 20
C. 21
D. 91

3 7341 is completely divisible by?

A. 3
B. 5
C. 7
D. 9

4 3 ones + 7 tens =

A. 73
B. 40
C. 37
D. 10

5 −4 − (−5) =

A. −1
B. 1
C. −9
D. 9

6 Which of these is the cube root of 729?
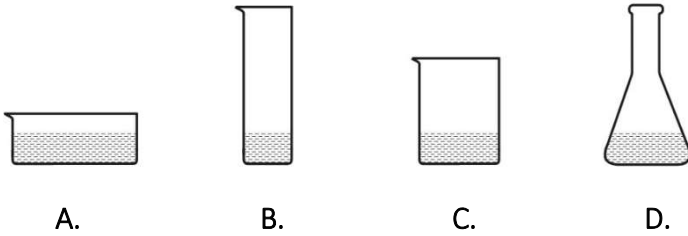
A. 9
B. 13
C. 19
D. 27

7 Which difference is closest to 300,000?

    A.   100,000 – 50,000

    B.   500,000 – 300,000

    C.   900,000 – 800,000
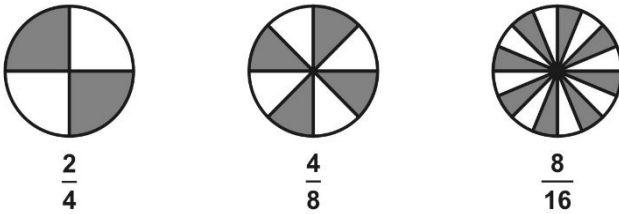
    D.   800,000 – 100,000

8 2.34 + 7.65 =

    A.   99.9

    B.   0.99

    C.   9.99

    D.   999

9 4 jars of different shapes are filled with water up to the same height as shown. Which of them has the **least** amount of water in it?
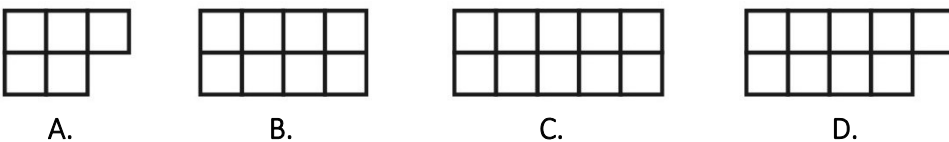

    A.   B.   C.   D.

10 Which of the following fractions is the greatest?

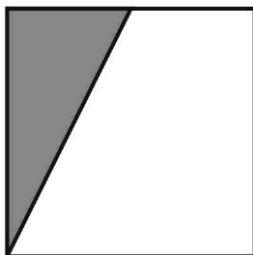$$\frac{2}{4} \qquad \frac{4}{8} \qquad \frac{8}{16}$$

    A. $\dfrac{2}{4}$

    B. $\dfrac{4}{8}$

    C. $\dfrac{8}{16}$

    D.   all are equal

11 If represents 75%, which of the following represents 125%?

    A.   B.   C.   D.

12 What fraction of the shape below is shaded?

A. 1

B. $\frac{1}{2}$

C. more than $\frac{1}{2}$

D. less than $\frac{1}{2}$
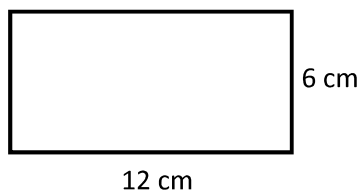
13 What is the place value of 5 in 54620?

A. ten thousands

B. hundreds

C. tens

D. ones

14 4.465 − 1.286 =

A. 5.751

B. 3.189

C. 3.179

D. 3.279

15 Calculate the perimeter of the following rectangle:
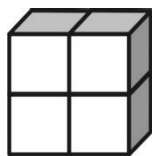
A. 18 cm

B. 72 cm

C. 36 cm

D. 24 cm

6 cm

12 cm

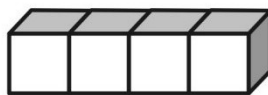**16** If X = 6 and Y = 9 and Z = 12 then X + Y − Z =

A. 0

B. 3

C. 6

D. 15

17 Which number is the smallest?

A. 3,124,300

B. 3,214,243

C. 3,124,030

D. 3,102,430

18 Cuboid x and Cuboid y below are both made of 4 identical unit cubes each.

What can be said about volume of x and y?

A. volume of x is greater than volume of y

B. volume of x is less than volume of y

C. volume of x is same as volume of y

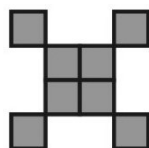D. volume of x and volume of y can't be determined

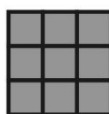**19** 4 identical tiles are used to form the shape shown below. The area of the shape is 16 sq cm.

Some more identical tiles were added to the above shape to form another shape with area 36 sq cm. Which of the following could be the new shape formed?
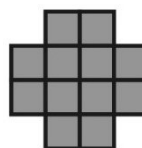

A.   B.   C.   D.
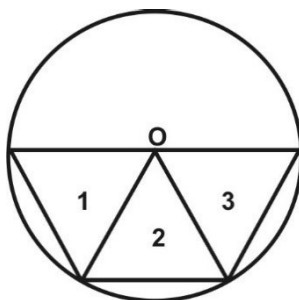
20 If A = 2 what is 3A equal to?

A. 2

B. 3

C. 5

D. 6

21 Three equilateral triangles are inscribed in a circle with center O as shown below. Which of the three triangles are congruent?

A. triangles 1 and 2 only

B. triangles 2 and 3 only
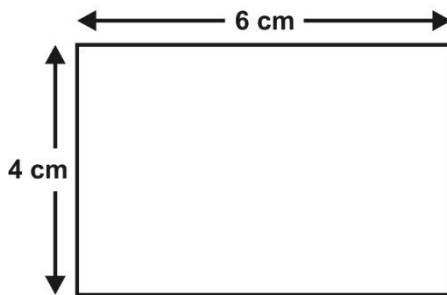
C. triangles 1 and 3 only

D. all the three triangles

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23 $\sqrt{81}$ =

A.   8.1

B.   9

C.   18

D.   40.5

24 Here is a rectangle with length 6 centimetres and width 4 centimetres. The length of its boundary is called its perimeter.

Which of these gives the perimeter of the rectangle in centimetres?

A.   6 + 4

B.   6 × 4

C.   6 × 4 × 2

D.   6 + 4 + 6 + 4

25 Mekdes has made a pattern with pieces of chart paper.

What will come next in the pattern?

A.   B.   C.   D.

26 Betlehem has balanced some bags of marbles. All the marbles are of the same weight. The number of marbles in each bag is written on it.
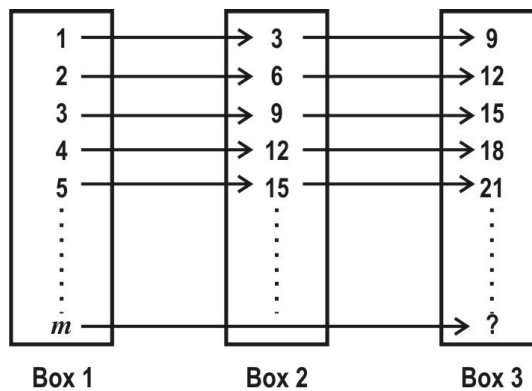
How many marbles are there in the bag marked M?

A. 13
B. 17
C. 33
D. 49

This redacted item is not for public release

28 A certain common formula converts the numbers in Box 1 to the corresponding ones in Box 2. Another formula then converts the numbers in Box 2 to the corresponding ones in Box 3:

1	→ 3	→ 9
2	→ 6	→ 12
3	→ 9	→ 15
4	→ 12	→ 18
5	→ 15	→ 21
⋮	⋮	⋮
m		→ ?

Box 1   Box 2   Box 3

If we wanted to convert a number m in Box 1 directly to the corresponding number in Box 3, we could use the formula

A. $3m + 2$
B. $3m \times 3$
C. $3(m + 2)$
D. $m + 2 \times 3$

29 Look at the picture to the right.

What is ☀ − 🐱 ?

18+7 = 🐱

27+13 = ☀

A.   6
B.   15
C.   20
D.   40

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30 For any numbers x and y such that x = 70 + y, what can be said about x and y?
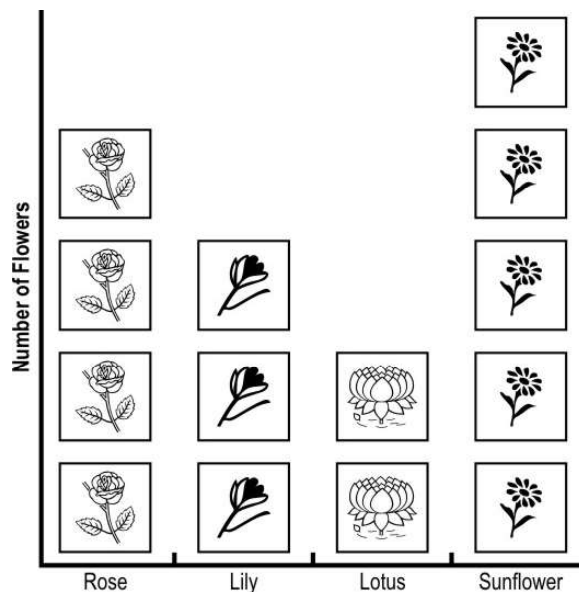
A.   x = y
B.   x < y
C.   x > y
D.   None of the above can be said as the exact values of x or y are NOT known.

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31 Which fraction is the simplified form of $\dfrac{8}{20}$?

A. $\dfrac{1}{20}$

B. $\dfrac{4}{5}$

C. $\dfrac{2}{5}$

D. $\dfrac{4}{8}$

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32 Mimmi counted the number of flowers in her garden. She made the following chart. Study the chart and answer the following question.

How many more sunflowers were there than lilies in the garden?

A.   1
B.   2
C.   3
D.   5

33 Which of these is a triangle?
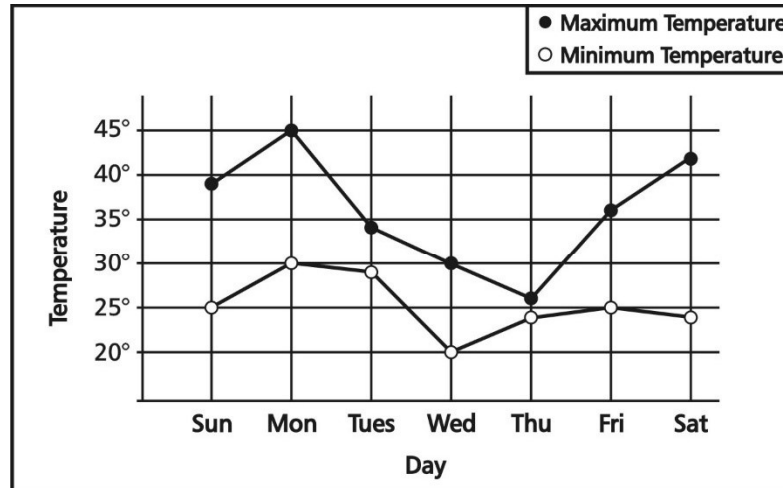

A.   B.   C.   D.

34 Shown below is the graph representing the highest and the lowest temperature recorded in a day for a week. Study it and answer the question.

On which day of the week was the HIGHEST temperature recorded?

A. Sunday

B. Monday

C. Wednesday

D. Saturday

35 Tadesse is older than Wendem and Wendem is older than Yacob. Which statement must be true?

A. Tadesse is older than Yacob.

B. Tadesse is younger than Yacob.

C. Tadesse is the same as Yacob.

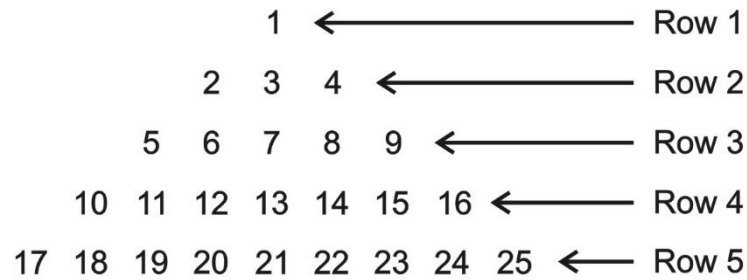D. We cannot tell who is the oldest from the information.

36 Eshetu's father is 6 times as old as Eshetu. Eshetu's mother is 25 years old. The average age of this family of three is 20 years. How old is Eshetu?

A. 15 years

B. 10 years

C. 7 years

D. 5 years

37 A sheet of paper is 0.012 cm thick. Of the following, which would be the height of a stack of 400 sheets of this paper?

A. 0.048 cm

B. 0.48 cm

C. 4.8 cm

D. 48 cm

38 Observe the number pattern in the number triangle below.

```
          1  ←───────────────  Row 1
       2  3  4  ←──────────────  Row 2
     5  6  7  8  9  ←───────────  Row 3
  10 11 12 13 14 15 16 ←────────  Row 4
17 18 19 20 21 22 23 24 25 ←────  Row 5
```

If it is extended, what will be the last number (on the right) in the 9th row?

A. 25

B. 36

C. 61

D. 81

39 $7^2 =$

A. 7

B. 14

C. 49

D. 72

40 What is the area of the square shown below?

A. 64 cm^2

B. 32 cm^2

C. 16 cm^2

D. 8 cm^2

8 cm