MATHEMATIC 2AB SIMS80

QUESTION 1
    [Picture]

Which of the following sequences
of numbers is in the order in
which they occur from left to
right on the number line?

           1
    A   0, -, -1
           2

           1
    B   0, -1, -
              2

          1
    C   -1, - -, 0
            2

             1
    D   -1, 0, - -
              2

          1
    E   - -, -1, 0
           2

QUESTION 2
    [Picture]

What is the value of s?

    A   7

    B   13

    C   15

    D   17

    E   None of these

QUESTION 3
Alexandra walked from Riverview to
Bridgeport, which are 3.1 kilometers
apart. During her walk she lost her
watch, went back 1.7 kilometers to find
it, and than continued on the original
direction until she reached Bridgeport.
How many kilometers had Alexandra
walked altogether when she arrived at
Bridgeport?

Mathematics needed to
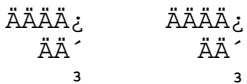answer this question
was taught:
  this year   _____
  before   _____
  never   _____

Calculator used:
  yes   _____
  no   _____

    A   1.4

    B   4.8

    C   6.5

    D   8.2

    E   None of these

QUESTION 4
(-2) x (-3) is equal to

Mathematics needed to
answer this question
was taught:
  this year   _____
  before   _____
  never   _____

Calculator used:
  yes   _____
  no   _____

    A   -6

    B   -5

    C   -1

    D   5

    E   6
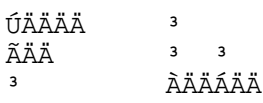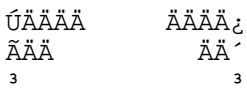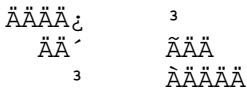
QUESTION 5
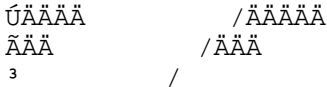In which diagram below is the
second figure the image of the
first figure under a reflection
in a line?

```
        ÄÄÄÄ¿      ÄÄÄÄ¿
   A      ÄÄ´        ÄÄ´
           ³          ³


        ÚÄÄÄÄ      ³
   B    ÃÄÄ        ³   ³
        ³              ÀÄÄÁÄÄ

        ÚÄÄÄÄ      ÄÄÄÄ¿
   C    ÃÄÄ          ÄÄ´
        ³            ³

        ÄÄÄÄ¿      ³
   D      ÄÄ´      ÃÄÄ
         ³         ÀÄÄÄÄ

        ÚÄÄÄÄ          /ÄÄÄÄ
   E    ÃÄÄ          /ÄÄ
        ³           /
```

QUESTION 6
     [Picture]

The triangles shown above are
congruent. The measures of some of
the sides and angles are as shown.
What is x?

   A   52

   B   55

   C   65

   D   73

   E   75

QUESTION 8
Here is a table that shows the
number of trees planted along a
highway in a week.

Days of the Week	Mon	Tues	Wed	Thur	Fri
Number of Trees Planted	80	50	60	90	75

On the diagram below, the graph for
the first two days' plantings has
been drawn.

    [Picture]

If the graph were completed, which
point woult indicate the top of
the bar on Thursday?

    A   P

    B   Q

    C   R

    D   S

    E   T

QUESTION 8
    [Picture]

There is a brass plate of the shape
and dimensions shown in the figure
above. What is its area in square
centimeters?

    A   16

    B   24

    C   32

    D   64

    E   96

QUESTION 9
    [Picture]

<--> <-->   <-->
 AB, CD, and EF are intersecting
 straight lines as shown above.
 The measures of certain angles
 are shown. x is equal to

    A   54

    B   62

    C   64

    D   126

    E   128

QUESTION 10
Simplify: 5x + 3y + 2x + 4y

    A   7x + 7y

    B   8x - 2y

    C   6xy

    D   7w - y

    E   7x + y

QUESTION 11
What is the volume of a
rectangular box with
interior dimensions 10 cm
long, 10 cm wide, and 7 cm
high?

    A   27 cm^3

    B   70 cm^3

    C   140 cm^3

    D   280 cm^3

    E   700 cm^3

QUESTION 12
If P = LW and if P = 12 and
L = 3, then W is equal to

    A $\dfrac{3}{4}$

    B   3

    C   4

    D   12

    E   36

QUESTION 13
     [Picture]

The diagram shows a cardboard cube
which has been cut along some edges
and folded out flat. If it is folded to
again make the cube, which two corners this
will touch corner P?

     A   corners Q and S

     B   corners T and Y

     C   corners W and Y

     D   corners T and V

     E   corners U and Y

QUESTION 14
Which of the following is a pair
of equivalent fractions?

                5   2
        A   - and -
                8   3

                5   2
        B   - and -
                6   3

                4   14
        C   - and --
                5   15

                3   9
        D   - and --
                5   15

                1   14
        E   - and --
                2   24

QUESTION 15
   [Picture]

Which of these is a TRUE statement
about the information shown on the
graph?

   A   Grade 2 is the smallest class

   B   Grades 2 and 4 have the same
         number of students

   C   Grade 4 has twice as many
         boys as girls

   D   Grade 4 has more girls than
         boys

   E   Grade 1 has as many boys as
         there are girls in Grade 4

Mathematics needed to
answer this question
was taught:
   this year   _____
   before   _____
   never   _____

Calculator used:
   yes   _____
   no   _____

QUESTION 16
Q = {1,2,3,4,5,6,7,8,9}
R = {3,5,7,9,11,13}
S = Q n R

[Note: the character n denotes the character for an intersection of sets]

There are 9 elements in set
Q and 6 in set R. How many
elements are there in set S ?

   A   16

   B   11

   C   7

   D   4

   E   2

Mathematics needed to
answer this question
was taught:
   this year   _____
   before   _____
   never   _____

Calculator used:
   yes   _____
   no   _____

QUESTION 17

$\dfrac{2}{5} + \dfrac{3}{8}$ is equal to

A $\dfrac{5}{13}$

B $\dfrac{5}{40}$

C $\dfrac{6}{40}$

D $\dfrac{16}{15}$

E $\dfrac{31}{40}$

QUESTION 18
0.40 x 6.38 is equal to

A .2552

B 2.452

C 2.552

D 24.52

E 25.52

QUESTION 19
On level ground, a boy 5 units
tall casts a shadow 3 units long.
At the same time a nearby telephone
pole 45 units high casts a shadow
the length of which, in the same
units, is

A 24

B 27

C 30

D 60

E 75

QUESTION 20
(22 x 18) - (47 + 59) is
equal to

    A   290

    B   300

    C   384

    D   408

    E   502

QUESTION 21
    [Picture]

The circle graph shows the
proportions of various grain
crops produced by a country.
Which of the following state-
ments is TRUE?

    A   More oats than rye is
           produced

    B   The largest crop is barley

    C   Equal quantities of wheat
           and barley are produced

    D   The smallest crop is oats

    E   Wheat and oats together make
           up less than half the total
           grain crop.

QUESTION 22
If 6x - 3 = 15

  then 6x = 15 - 3 (i)

  and 6x = 12   (ii)

$$\text{and } x = \frac{12}{16} \quad \text{(iii)}$$

  and x = 2   (iv)

The error in the above reasoning,
if one exists, FIRST APPEARS in
line

    A   (i)

    B   (ii)

    C   (iii)

    D   (iv)

    E   None of these,
            there is no error.

QUESTION 23

The value of $2^3 \times 3^2$

    A   30

    B   36

    C   64

    D   72

    E   None of these

QUESTION 24
    [Picture]
The total area of the two
triangles is

    A   6 x 8 cmý

    B $\dfrac{6 \times 8}{2}$ cmý

    C $\dfrac{10 \times 6}{2}$ cmý

    D $\dfrac{16 \times 12}{2}$ cmý

    E $\dfrac{20 \times 12}{2}$ cmý

QUESTION 25
Soda costs à cents for each
bottle, but there is a refund
of b cents on each empty bottle.
How much will Henry have to pay
for x bottles if he brings back
y empties?

    A   àx + by cents

    B   àx - by cents

    C   (à - b)x cents

    D   (à + x) - (b + y) cents

    E   None of these

QUESTION 26
In a school of 800 pupils,
300 are boys. The ratio of
the numeer of boys to the
number of girls is

    A   3 : 8

    B   5 : 8

    C   3 : 11

    D   5 : 3

    E   3 : 5

QUESTION 27
The arithmetic mean (average)
of: 1.50, 2.40, 3.75
is equal to

    A   2.40

    B   2.55

    C   3.75

    D   7.65

    E   None of these

QUESTION 28
A quadrilater MUST be a
parallelogram if it has

    A   one pair of adjacent sides
            equal

    B   one pair of parallel sides

    C   a diagonal as axis of
            symmetry

    D   two adjacent angles
            equal

    E   two pairs of parallel sides

QUESTION 29
One of the following points
can be joined to the point
(-3,4) by a line segment which
cuts NEITHER the x NOR the y
axis. Which one?

    A   (-2,3)

    B   (2,-3)

    C   (2,3)

    D   (-2,-3)

    E   (4,-3)

QUESTION 30
Which of the following is most
likely to be nearest to the weight
of a normal man?

    A   8.5 kg

    B   85 kg

    C   185 kg

    D   850

    E   1850 kg

QUESTION 31
Matchsticks are arranged as
follows.

```
ÄÄ  \     ÄÄ ÄÄ \       ÄÄ ÄÄ ÄÄ \
 3   3    3   3   3     3   3   3   3
ÄÄ  /     ÄÄ ÄÄ /       ÄÄ ÄÄ ÄÄ /
```
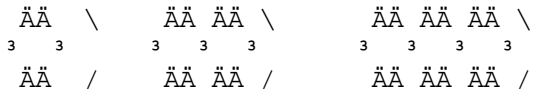
If the pattern is continued,
how many matchsticks are used
in making the 10th figure?

    A   30

    B   33

    C   36

    D   39

    E   42

QUESTION 32
    [Picture]

The length of the circumference
of the circle with center at O is
24 and the length of arc RS is 4.
What is the measure in degrees of
the central angle ROS ?

    A   24

    B   30

    C   45

    D   60

    E   90

QUESTION 33
30 is 75% of what number?

    A   40

    B   90

    C   105

    D   225

    E   2250

QUESTION 34
What is the square root of

   12 x 75?

   A   6.25

   B   30

   C   87

   D   625

   E   900

QUESTION 35
In the number in the box
the digit 6 represents

               1
   A   6 x ---
              100

               1
   B   6 x --
              10

   C   6 x 1

   D   6 x 10

   E   6 x 100

QUESTION 36
        ÄÄ
If segment PQ were drawn for each
figure shown below, it would divide
one of the figures into two congruent
triangles. Which figure?

   A   [figure]

   B   [figure]

   C   [figure]

   D   [figure]

   E   [figure]

QUESTION 37
    [Picture]

On the above scale the reading
indicated by the arrow is
between

    A   51 and 52

    B   57 and 58

    C   60 and 62

    D   62 and 64

    E   64 and 66

Mathematics needed to
answer this question
was taught:
  this year   _____
  before   _____
  never   _____

Calculator used:
  yes   _____
  no   _____

QUESTION 38
    [Picture]
What are the coordinates
of point P?

    A   (-3,4)

    B   (-4,-3)

    C   (3,4)

    D   (4,-3)

    E   (-4,3)

Mathematics needed to
answer this question
was taught:
  this year   _____
  before   _____
  never   _____

Calculator used:
  yes   _____
  no   _____

QUESTION 39
The table below compares the height from which a
ball is dropped (d) and the height
to which it bounces (b).

    ----
    ³ d ³³ 50 ³ 80 ³ 100 ³ 150 ³
    ----
    ³ d ³³ 25 ³ 40 ³ 50 ³ 75 ³

Which formula describes this relation?

    A   b = dý

    B   b = 2d

           d
    C   b = -
           2

    D   b = d + 25

    E   b = d - 25

Mathematics needed to
answer this question
was taught:
  this year   _____
  before   _____
  never   _____

Calculator used:
  yes   _____
  no   _____

QUESTION 40
The air temperature at the foot
of a mountain is 31 degrees. On
top of the mountain the temperature
is -7 degrees. How much warmer is
the air at the foot of the mountain?

Mathematics needed to
answer this question
was taught:

A   -38 degrees

B   -24 degrees

this year   _____
before   _____

C   7 degrees

never   _____

D   24 degrees

Calculator used:

E   38 degrees

yes   _____
no   _____