IEA - Data Enhancement Project

Questionnaire printing

Study: SC2

Population: 3

Instrument: STQ_3

Student Math Test   Population 3

===

```
1        8265
        -5437
        -----
```

The answer to this subtraction is

    A   2828
    B   2832
    C   3228
    D   3232
    E   3838

P3Q01
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2   What is the square root of 12 x 75?

    A   6.25
    B   30
    C   87
    D   625
    E   900

P3Q02
----

3   The expression $6 \times 10^5 + 2 \times 10^4 + 7 \times 10^3 + 9$ is equal to

    A   6 279
    B   62 709
    C   602 709
    D   627 009
    E   6 020 709

P3Q03
----

4   Four times a certain number is 24 more than the number.
    What is the number?

    A   5
    B   6
    C   8
    D   12
    E   18

P3Q04

2

5   0.00046 is equal to

    A 4.6×10^{-5}

    B 4.6×10^{-4}

    C 46×10^{-4}

    D 46×10^{-3}

    E 0.46×10^{3}

P3Q05
----

6   There are 227 students in a school. Every student in the school belongs
    to either the music club or the sports club, and some students belong to
    both clubs. The music club has 120 members, and 36 of these are also
L
    members of the sports club. What is the total membership of the sports
    club?
L

    A   84
    B   107
    C   120
    D   143
    E   191

P3Q06
----

7   Which one of the following is correct?

    A $\dfrac{3}{7} \times \dfrac{7}{9} = \dfrac{63}{21} = 3$

    B $\dfrac{3}{7} \times \dfrac{7}{9} = \dfrac{21}{16} = 1\dfrac{5}{16}$

    C $\dfrac{3}{7} \times \dfrac{7}{9} = \dfrac{10}{16} = \dfrac{5}{8}$

    D $\dfrac{3}{7} \times \dfrac{7}{9} = \dfrac{21}{63} = \dfrac{1}{3}$

    E $\dfrac{3}{7} \times \dfrac{7}{9} = \dfrac{27}{49}$

P3Q07

3

8
$$\frac{a}{15} - \frac{b}{5} \quad \text{is equal to}$$

A $\dfrac{a - 3b}{15}$ D $\dfrac{a - b}{75}$

B $\dfrac{5a - 15b}{15}$ E $\dfrac{3a - 5b}{75}$

C $\dfrac{a - b}{10}$

P3Q08
----

9   In the graph below rainfall in cm (centimetres) is plotted for 13 weeks.

```
    Rainfall
     (cm)
   6 |-------------------------------------------------------
     |                            |
   5 |-----------------------|----------------------------
     |                       |        |
   4 |-----------------------|-------|--------------------
     |                       |   |   |
   3 |-----------------------|---|---|--------------------
     |                       |   |   |
   2 |-----------------|---|---|---|---|-----------------
     |           |   |   |   |   |   |   |
   1 |------|---|---|---|---|---|---|---|---|---|----------
     | |   |   |   |   |   |   |   |   |   |   |   |   |
     ----------------------------------------------------
       1   2   3   4   5   6   7   8   9  10  11  12  13
                          Week
```
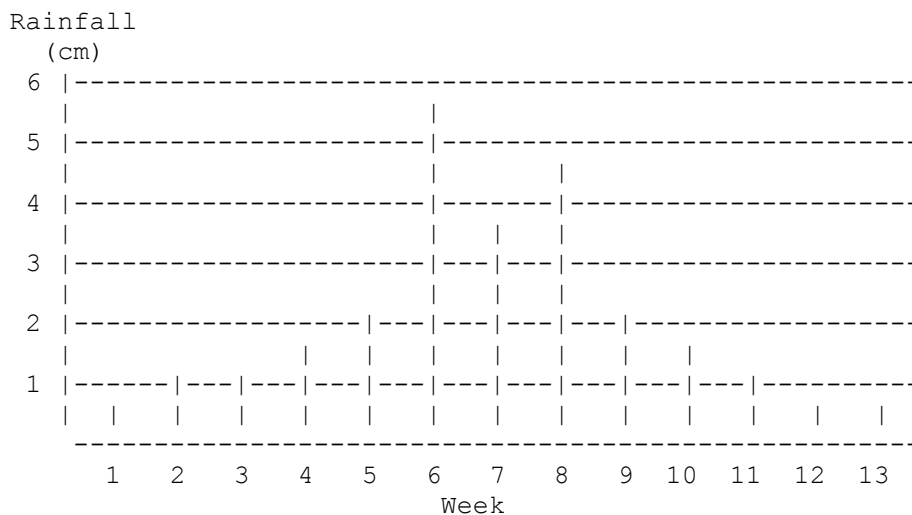
The average weekly rainfall during the period is approximately

A   1 cm
E   2 cm
C   3 cm
D   4 cm
E   5 cm

P3Q09

4

10 Frank decided to make a bar graph to show the maximum temperature on
    four days. He made this table to help him draw the graph.

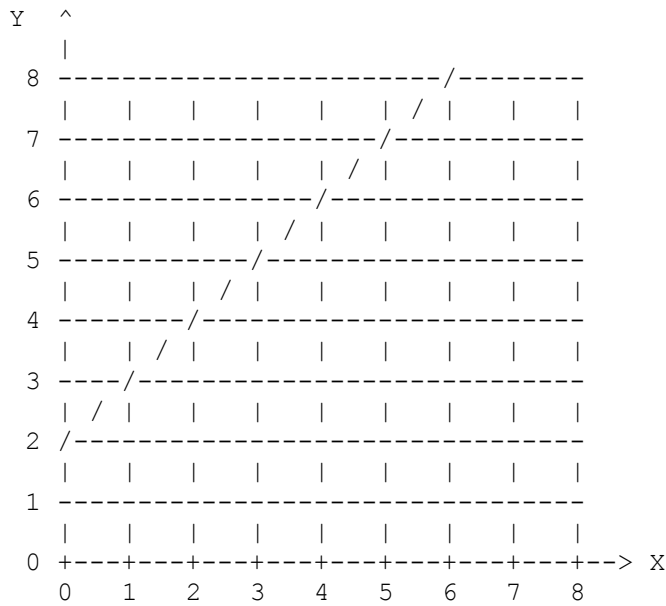| Day	Mon	Tue	Wed	Thur
Maximum temperature	16 øC	18 øC	21 øC	24 øC
Height of the bar	8 cm	9 cm		12 cm

What should be the height of the bar for Wednesday?

    A   9.5 cm
    B   10 cm
    C   10.5 cm
    D   21 cm
    E   42 cm

P3Q10

11
```
        Y  ^
           |
        8 ----------------------/--------
           |   |   |   |   |   | / |   |   |
        7 --------------------/------------
           |   |   |   |   | / |   |   |   |
        6 ----------------/----------------
           |   |   |   | / |   |   |   |   |
        5 ------------/--------------------
           |   |   | / |   |   |   |   |   |
        4 --------/------------------------
           |   | / |   |   |   |   |   |   |
        3 ----/----------------------------
           | / |   |   |   |   |   |   |   |
        2 /------------------------------
           |   |   |   |   |   |   |   |   |
        1 ------------------------------
           |   |   |   |   |   |   |   |   |
        0 +---+---+---+---+---+---+---+---+--> X
          0   1   2   3   4   5   6   7   8
```

The equation of the graph shown above is

    A   y = x + 1
    B   y = x + 2
    C   y = 2x + 1
    D   y = 2x + 2
    E   y = 3x - 2

P3Q11

5

12 What number should go in the space to complete the following number
    pattern?

        2, 4, ..., 48, 240

        A   8
        B   12
        C   16
        D   24
        E   32

P3Q12
----

13 A solid plastic cube with edges 1 centimetre long weighs 1 gram.
    How much will a solid cube of the same plastic weigh if each edge
    is 2 centimetres long?

        A   16 grams
        B   8 grams
        C   4 grams
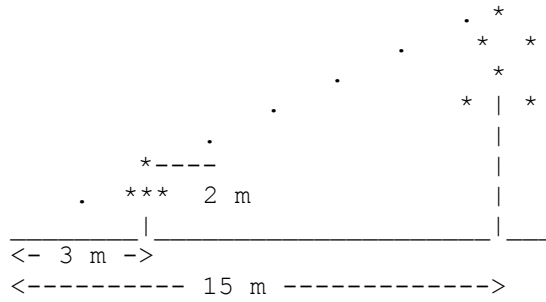   D   3 grams
        E   2 grams

P3Q13
----

14 A rectangle is twice as long as it is wide. If it has an area of
    32 cm2, what is its *perimeter*?

        A   4 cm
        B   12 cm
        C   16 cm
        D   20 cm
        E   24 cm

P3Q14

15

```
                                              .  *
                                         .    *   *
                                    .           *
                               .            *  | *
                          .                    |
                     *----                      |
                .    ***  2 m                   |
          _____|_____|___
               <- 3 m ->
               <--------- 15 m ------------->
```

The picture above shows a method of finding the height of a tall tree
using a short tree. What is the height of the tall tree?

    A   8 metres
    B   10 metres
    C   15 metres
    D   18 metres
    E   20 metres

P3Q15

16

If $\dfrac{x}{2} < 7$, then

    A $x < \dfrac{7}{2}$

    B $x < 5$

    C $x < 14$

    D $x > 5$

    E $x > 14$

P3Q16

17

If $\dfrac{2}{\square} = \dfrac{\square}{8}$, then $\square$ can be equal to

    A   1
    B   2
    C   4
    D   8
    E   16

P3Q17

7

18 If xy = 1 and x is greater than 0, which of the following statements
    is true?

        A   When x is greater than 1, y is negative.
        B   When x is greater than 1, y is greater than 1.
        C   When x is less than 1, y is less than 1.
        D   As x increases, y increases.
        E   As x increases, y decreases.

P3Q18
----

19 A certain operation written as is defined by:

                    b - a
          a b = -----   for any numbers a and b.
                      a
               2
    If 5 b = - , what is the value of b?
              5

        A   2
        B   3
        C   5
        D   7
        E   9

P3Q19
----

20 A factory produces m cars per week. How many cars per week will it
    produce after production is increased p per cent?

        A   100p + m   D   m + mp

                                            100
        B   100m + mp   E   p
                                            --- + m
                                            100
        C   m + mp

                 100

P3Q20

8