

1

The cost of printing greeting cards consists of a fixed charge of 100 cents and a charge of 5 cents for each card printed. Which of the following equations can be used to determine the cost of printing n cards?

A cost = (100 + 6n) cents

B cost = (106 + n) cents

C cost = (6 + 100n) cents

D cost = (106n) cents

E cost = (600n) cents

##

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

Calculator used:
yes
no

2

Table with two columns: m and n. Row 1: m=3, n=-1. Row 2: m=1, n=2. Row 3: m=4, n=3. Row 4: m=-1, n=3. Row 5: m=3, n=5. Row 6: m=5, n=9.

For the table shown, a formula that could relate m and n is

A n = m

B n = 3m

C n = -m + 1

D n = m + 1

E n = 2m + 1

##

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

Calculator used:
yes
no

3

John is 4 years older than Ellen, and Ellen is 11 years younger than Monica. Monica is 12 years old. How old is John?

A 3 years

B 5 years

C 14 years

D 19 years

E 27 years

##

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

Calculator used:
yes
no

4
[Picture]

In the above rectangle the
measure of $\angle ROQ$ is

[Note: the character \angle denotes the character for an angle]

- A 23°
- B 45°
- C 46°
- D 54°
- E 67°

##

Mathematics needed to
answer this question
was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

5
[Picture]

The figure above shows a rectangular
box. Which of the following is
closest to the volume of this box?

- A 16 cm³
- B 18 cm³
- C 28 cm³
- D 36 cm³
- E 48 cm³

##

Mathematics needed to
answer this question
was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

6
[Picture]

-> ->
u and v are two vectors.

Which figure below represents

-> ->
u - v ?

- A [Figure]
- B [Figure]

Mathematics needed to
answer this question
was taught:

this year _____
before _____

C [Figure]

never _____

D [Figure]

Calculator used:

yes _____

E [Figure]

no _____

##

7

Joe had three test scores of 78, 76 and 74, while Mary had scores of 72, 82 and 74. How did Joe's average compare with Mary's?

A Joe's was 1 point higher

Mathematics needed to answer this question was taught:

B Joe's was 1 point lower

this year _____

C Both averages were the same

before _____

D Joe's was 2 points higher

never _____

E Joe's was 2 points lower

Calculator used:

yes _____

##

no _____

8

[Picture]

Suppose you start at point M(-1,-1), move a distance of one unit to N(-1,-2), then turn left and move one unit to the point P(0,-2). If you again turn left and move one unit, you will now be at the point with coordinates

A (1, -2)

Mathematics needed to answer this question was taught:

D (0, -3)

this year _____

C (0, -1)

before _____

D (-1, -2)

never _____

E None of the above

Calculator used:

yes _____

##

no _____

9

[Picture]

The figure QRST is a square and PQT an equilateral triangle. If PQ = 6 cm then the area of the square is

A 64 cm²

Mathematics needed to answer this question was taught:

B 48 cm²

this year _____

C 40 cm²

before _____

never _____

D 36 cmý

E 24 cmý

##

Calculator used:

yes _____
no _____

10

There are 35 students in a

class. $\frac{1}{5}$ of them come to

school by bus, another $\frac{2}{5}$

come by bicycle. How many

come to school by other means?

A 7

B 14

C 21

D 28

E 35

##

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

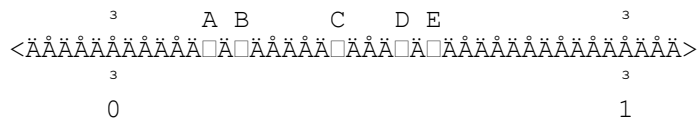
Calculator used:

yes _____
no _____

11

Which of the points A, B, C, D, E on this number line corresponds

$\frac{5}{8}$ to - ?



A point A

B point B

C point C

D point D

E point E

##

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

12

A B
AAAAA'

1 unit

AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA'

AA

The length of AB is 1 unit.

Which is the best estimate

AA

for the length of PQ ?

- A 2 units
- B 6 units
- C 10 units
- D 14 units
- E 18 units

##

13

[Picture]

<--> <-->

Lines AB and CD are parallel.
Two angles whose measures must add up to 180° are

[Note: the character Å denotes the character for an angle]

- A Å 1 and Å 3
- B Å 4 and Å 6
- C Å 2 and Å 5
- D Å 2 and Å 7
- E Å 1 and Å 8

##

14

Which of these is the name of a solid figure, each of whose faces is a square?

- A cube
- B pyramid
- C tetrahedron
- D hexagon
- E cylinder

Mathematics needed to answer this question was taught:

this year _____
 before _____
 never _____

Calculator used:

yes _____
 no _____

Mathematics needed to answer this question was taught:

this year _____
 before _____
 never _____

Calculator used:

yes _____
 no _____

Mathematics needed to answer this question was taught:

this year _____
 before _____
 never _____

Calculator used:

yes _____
 no _____

##

15

A student's solution to the problem

$\frac{-2}{5} \times \frac{3}{-2} \times \frac{5}{6}$ is given below.

$$= \frac{(-2) \times 3 \times 5}{5 \times (-2) \times 6} \quad (\text{i})$$

$$= \frac{(-2) \times 3 \times 5}{(-2) \times 6 \times 5} \quad (\text{ii})$$

$$= 1 \times \frac{3}{6} \times 1 \quad (\text{iii})$$

$$= \frac{1}{2} \quad (\text{iv})$$

Check the student's work and decide if there are any errors. In which line does any error FIRST APPEAR?

- A line (i)
- B line (ii)
- C line (iii)
- D line (iv)
- E There is no error. The work is correct.

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

Calculator used:
yes _____
no _____

##

16

20% of 125 is equal to

- A 6.25
- B 12.50
- C 15
- D 25
- E 50

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

Calculator used:
yes _____
no _____

##

17

$\frac{2}{3} \times n$

If $10^n \times 10^m = 10^k$ then n is equal to

- A 4
- B 5
- C 6
- D 8
- E 9

##

18
[Picture]

PQRS is a rectangle. Its image after a transformation is the rectangle P'Q'R'S', as shown above. The transformation used could have been

- A a rotation about the origin
- B a reflection in the y-axis
- C a translation parallel to the x-axis
- D a reflection in the x-axis
- E translation parallel to the y-axis

##

19
You wish to know whether SLOSH is the most popular soft-drink in your school. The way of finding out, from among the following, which will give results you can be most sure of, will be to

- A note the number of empty SLOSH bottles in the trash cans.
- B ask the manager of the snack bar how many cases of SLOSH he has ordered in the last month.
- C ask your friends whether they think that SLOSH is the most popular soft-drink.
- D discuss with the driver of the soft-drink delivery truck what he thinks of SLOSH.
- E keep a record of soft-drink sales in the school by brand name over

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____

a period of 1 week.

no _____

20
If the ratio of 2 to 5 equals
the ratio of n to 100, then
n is equal to

- A 10
- B 20
- C 40
- D 150
- E 250

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

Calculator used:
yes _____
no _____

##

21
The value of 0.2131×0.02958
is approximately

- A 0.6
- B 0.06
- C 0.006
- D 0.0006
- E 0.00006

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

Calculator used:
yes _____
no _____

##

22
 $-5(6 - 4)$ is equal to

- A 50
- B 26
- C 10
- D -10
- E -26

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

Calculator used:
yes _____
no _____

##

23
[Picture]

The rectangle shown above is cut
along the dotted lines and the
three parts put together, without
overlapping, to give the figure
shown below.

[Picture]

The area in square centimeters of this figure is

- A 8 cm²
- B 10 cm²
- C 12 cm²
- D 12 cm²
- E 16 cm²

##

24

[Picture]

The graph shows the distance traveled by a tractor during a period of 4 hours. How fast is the tractor moving?

- A 1 kilometer per hour
- B 2 kilometers per hour
- C 4 kilometers per hour
- D 8 kilometers per hour
- E There is not enough information

##

25

[Picture]

What is the area of the above parallelogram?

- A 30 cm²
- B 36 cm²
- C 48 cm²
- D 60 cm²
- E 80 cm²

##

26

[Picture]

Two of these triangles are similar. They are

- A P and R

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

Mathematics needed to answer this question

- B P and S
- C R and S
- D Q and R
- E Q and S

##

was taught:
 this year _____
 before _____
 never _____

Calculator used:
 yes _____
 no _____

27
 1054
 -865

- A 189
- B 199
- C 211
- D 289
- E 299

##

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

Calculator used:
 yes _____
 no _____

28
 Which one of the following diagrams
 illustrates the statement, "Set S
 is a subset of set T"?

- A [Figure]
- B [Figure]
- C [Figure]
- D [Figure]
- E [Figure]

##

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

Calculator used:
 yes _____
 no _____

29
 When $x = 2$, $\frac{7x + 4}{5x - 4}$ is equal to

- A 11
- B 3
- C $\frac{11}{5}$
- D $\frac{9}{5}$

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

E 7
-
5

##

Calculator used:

yes _____
no _____

30

If S is the set of points with x-coordinate greater than 3, and T is the set of points with y-coordinate greater than 6, which of the following is a member of both sets?

- A (4, 8)
- B (7, 4)
- C (2, 8)
- D (4, 4)
- E (2, 4)

##

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

31

The distance between two towns is usually measured in

- A millimeters
- B centimeters
- C decimeters
- D meters
- E kilometers

##

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

32

Which equation is true for ALL values of n?

- A $2 + n = n + 2$
- B $3 + n = 4 + 2$
- C $n + 1 = 1$
- D $2n + 1 = n$
- E $n + 3 = 3n$

##

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

33

Which of the following is equal to a quarter of a million?

- A 25,250
- B 40,000
- C $\frac{1}{4,000,000}$
- D 250,000
- E 2,500,000

##

34
[Picture]

Three straight lines intersect as shown in the diagram. What is x equal to ?

- A 30
- B 50
- C 60
- D 110
- E 150

##

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____

Mathematics needed to answer this question was taught:

this year _____
before _____
never _____

Calculator used:

yes _____
no _____