

Started on Wednesday, 3 July 2024, 6:25 PM

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Completed on Wednesday, 3 July 2024, 6:27 PM

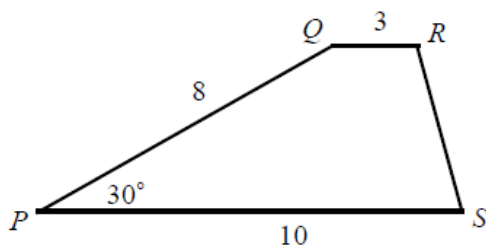
Time taken 1 min 39 secs

Grade 0.00 out of 50.00 (0%)

Question 1

Not answered

Marked out of 1.00



What is the area of trapezoid $PQRS$ above?

- a. 20
- b. 28
- c. 32
- d. 24
- e. 26

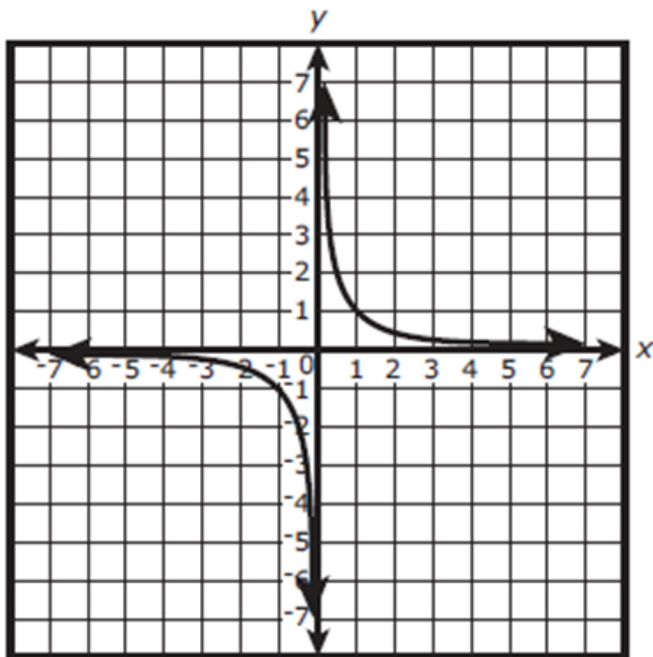
Question 2

Not answered

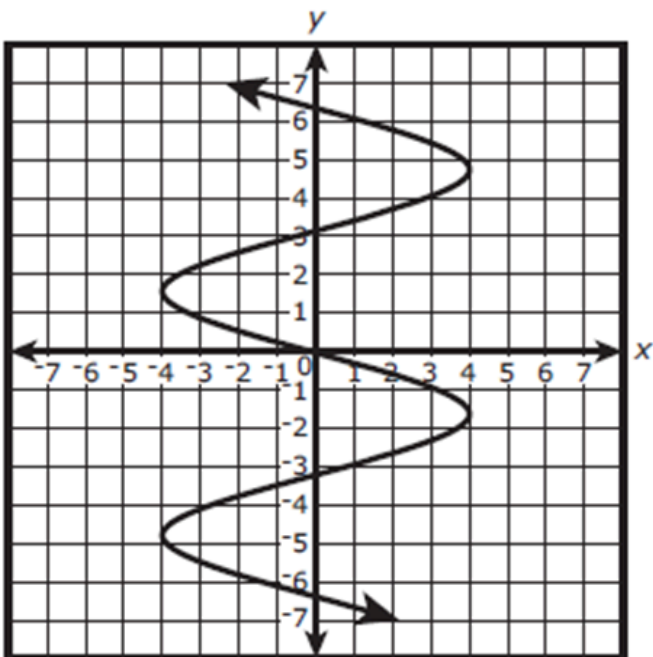
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Which of the following graphs shows a relationship that is **not** a function?

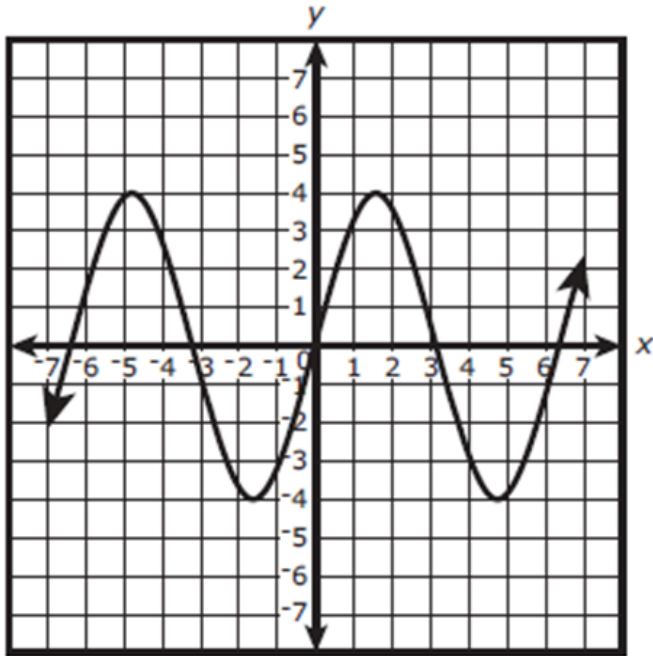
a.



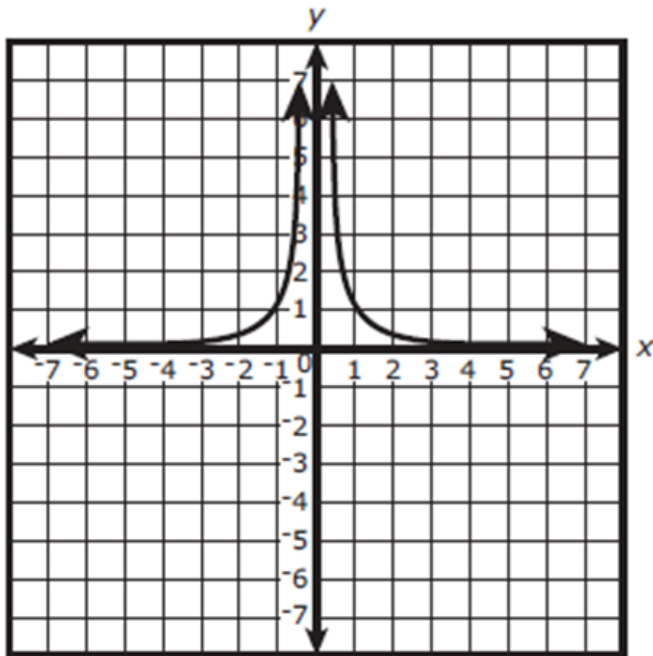
b.



c.



d.



Question 3

Not answered

Marked out of 1.00

$$\frac{1}{x} - \frac{2}{x-2} = \frac{-4}{x^2 - 2x}$$

What is the solution set of the equation above?

- a. 0
- b. 2
- c. There is no solution to the equation.
- d. -2
- e. 1

Question 4

Not answered

Marked out of 1.00

$$x^2 - 2x - 24$$

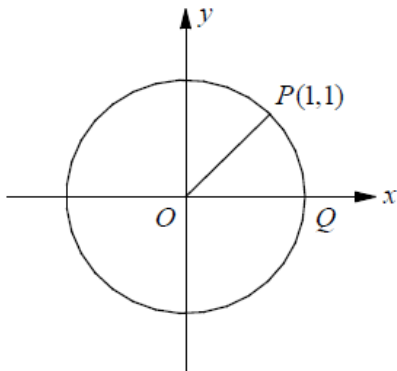
Which of the following is equivalent to the expression above?

- a. $(x-2)(x+12)$
- b. $(x+6)(x-4)$
- c. $(x-3)(x+8)$
- d. $(x-6)(x+4)$
- e. $(x+3)(x-8)$

Question 5

Not answered

Marked out of 1.00



In the xy -plane above, O is the center of the circle, and the measure of $\angle POQ$ is $k\pi$ radians.

What is the value of k ?

- a. $\frac{1}{2}$
- b. $\frac{1}{6}$
- c. $\frac{1}{4}$
- d. $\frac{1}{3}$
- e. $\frac{\sqrt{3}}{4}$

Question 6

Not answered

Marked out of 1.00

If $gh = f - g - h$, which of the following gives g in terms of the other variables?

- a. $g = \frac{f + h}{h - 1}$
- b. $g = \frac{f + h}{h + 1}$
- c. $g = \frac{f - h}{h + 1}$
- d. $g = \frac{f - h}{h - 1}$

Question 7

Not answered

Marked out of 1.00

Calculate the following integral

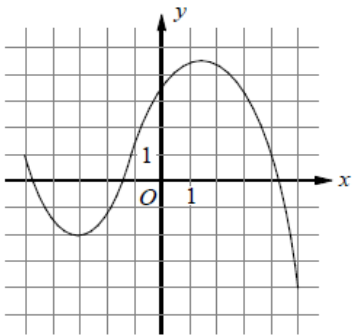
$$\int_0^{\frac{\pi}{4}} \sin x dx + \int_{-\frac{\pi}{4}}^0 \cos x dx = \quad ?$$

- a. 0
- b. -1
- c. 2
- d. 1
- e. 1/2

Question 8

Not answered

Marked out of 1.00

What is the minimum value of the function graphed on the xy -plane above, for $-5 \leq x \leq 5$?

- a. -3
- b. -2
- c. -4
- d. 1
- e. -5

Question 9

Not answered

Marked out of 1.00

If

 $f(x) = 4e^{-x}, x \in \mathbb{R}$ and $g(x) = x + 2, x \in \mathbb{R}$.Solve the equation $g \circ f(x) = \frac{10}{3}$.

- a. e^{-1}

- b. 1
- c. $\ln 2$
- d. none of these answers
- e. $\ln 3$

Question 10

Not answered

Marked out of 1.00

$$mn - 5n - m + 5$$

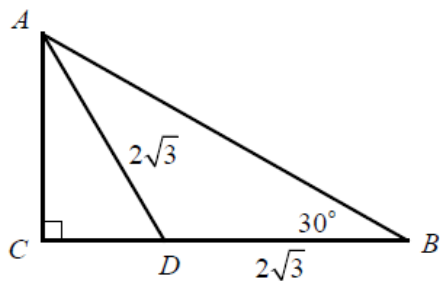
Which of the following is equivalent to the expression shown above?

- a. $(5m-1)(n-5)$
- b. $(m-1)(n-5)$
- c. $(m-5)(5n-1)$
- d. $(m+5)(n+1)$
- e. $(m-5)(n-1)$

Question 11

Not answered

Marked out of 1.00

In the figure above, if $(AD = BD = 2\sqrt{3})$, what is the length of (AB) ?

- a. 4
- b. 6
- c. 3
- d. 5
- e. 7

Question 12

Not answered

Marked out of 1.00

Which of the following is equal to

$$\sqrt{(1+\sqrt{3})(2-\sqrt{3})}$$

- a. $\sqrt{-1 + \sqrt{3}}$
- b. $\sqrt{-1 - \sqrt{3}}$
- c. -1
- d. $\sqrt{1 + \sqrt{3}}$
- e. $\sqrt{1 - \sqrt{3}}$

Question 13

Not answered

Marked out of 1.00

Which of the following expressions is equivalent to $a(b-c)-b(a+c)-c(a-b)$?

- a. $-2ac$
- b. $-2bc$
- c. $2ac$
- d. bc

Question 14

Not answered

Marked out of 1.00

Find the solution of the following equation

$$\sqrt{x \ln 9 + \ln 28 = \ln 12 + x \ln 49}$$

- a. $1/2$
- b. 1
- c. e
- d. $1/4$
- e. $1/3$

Question 15

Not answered

Marked out of 1.00

If $f(x) = 5x^2 - 3$ and $f(x + a) = 5x^2 + 20x + 17$, what is the value of a ?

- a. -3
- b. -30
- c. 20
- d. 3
- e. 2

Question 16

Not answered

Marked out of 1.00

The ratio of mass to volume for a type of metal is 27 grams to 10 cubic centimeters. A sample of the metal has a mass of 81 grams. What is the volume, in cubic centimeters, of the sample of metal?

- a. 810
- b. 118
- c. 64
- d. 18
- e. 30

Question 17

Not answered

Marked out of 1.00

Find the limit

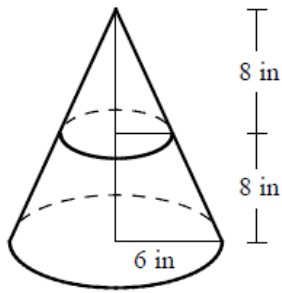
$$\lim_{x \rightarrow \infty} \frac{3x^2 + 27}{x^3 - 27}$$

- a. ∞
- b. 0
- c. -1
- d. 1
- e. 3

Question 18

Not answered

Marked out of 1.00



A plane parallel to the base of a cone divides the cone into two pieces, and removes the top part. The radius of the cone is 6 inches (in), the height of the cone is 16 in, and the distance from the base to the parallel plane is 8 in.

What is the volume of the remaining bottom part, in cubic inches?

- a. 168π
- b. 56π
- c. 84π
- d. 98π
- e. 126π

Question 19

Not answered

Marked out of 1.00

Solve the following system of linear equations:

$$x+2y-z=-2$$

$$x-6y+z=40$$

$$-x+4y+z=5$$

- a. $x=21$ $y=1$ $z=2.5$
- b. $x=19$ $y=0.5$ $z=22$
- c. $x=10$ $y=22$ $z=2.5$
- d. $x=21$ $y=1$ $z=25$
- e. $x=20$ $y=0.5$ $z=23$

Question 20

Not answered

Marked out of 1.00

Which of the following numbers is **NOT** a solution to the inequality $3-n < -2$ or $2n+3 \leq -1$?

- a. 6
- b. -6
- c. -3
- d. 2
- e. -2

Question 21

Not answered

Marked out of 1.00

On a map, 1 inch represents 5 miles. If a certain state is represented on a map by a rectangle 10 inches by 7.2 inches, what is the area of the state in square miles?

- a. 360 mi²
- b. 1080 mi²
- c. 1800 mi²
- d. 720 mi²
- e. 900 mi²

Question 22

Not answered

Marked out of 1.00

If $f(x) = x^2 - 3x - 1$ and $g(x) = 1 - x$, what is the value of $(f \circ g)(-2)$?

- a. 3
- b. -3
- c. 1
- d. -1
- e. 0

Question **23**

Not answered

Marked out of 1.00

If $(2 \cdot 5^9 - k \cdot 5^8 = 2 \cdot 5^8)$, what is the value of (k) ?

- a. **9**
- b. **7**
- c. **10**
- d. **8**
- e. **6**

Question **24**

Not answered

Marked out of 1.00

If $(f(x) = e^{4 \ln x})$, then what is the derivative of $(f(x))$?

- a. $e^{4 \ln x}$
- b. $4x^3$
- c. $\ln x$
- d. none of these answers
- e. $e^{4 \ln x} / x$

Question **25**

Not answered

Marked out of 1.00

$$y = 2x + 4$$

$$x - y = -1$$

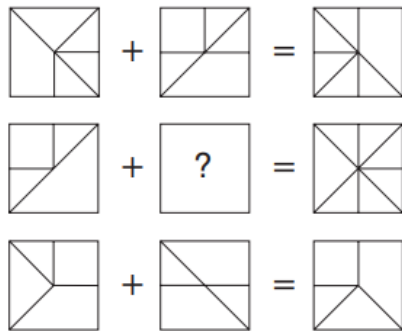
Which ordered pair (x,y) satisfies the system of equations shown above?

- a. $(-3, -2)$
- b. $(-1, 0)$
- c. $(-2, 0)$
- d. $(-1, 2)$
- e. $(-2, -3)$

Question 26

Not answered

Marked out of 1.00



Which is the missing square?

- a.
- b.
- c.
- d.
- e.

Question 27

Not answered

Marked out of 1.00

Replace the question mark (?) in the given series with suitable option.

2, 3, 7, 16, 32, ?

- a. 45
- b. 48
- c. 37
- d. 57
- e. 55

Question 28

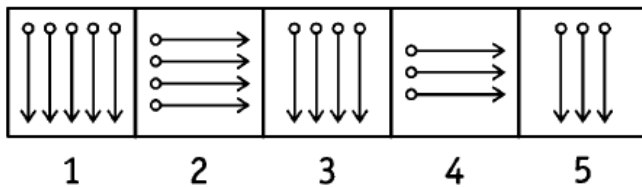
Not answered

Marked out of 1.00

In the question, a group of 5 figures following a certain sequence is given as problem figures. Problem figures are followed by another group of five figures known as answer figures marked as (a), (b), (c), (d) and (e).

Find out **one figure** from the **answer figures** which when placed **next** to the problem figures will continue the sequence of problem figures. (*P.S: your choice is 6th figure*)

Problem Figures



1

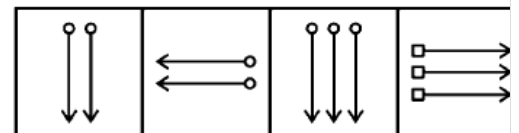
2

3

4

5

Answer Figures



(a)

(b)

(c)

(d)

- a. b
- b. d
- c. e
- d. c
- e. a

Question 29

Not answered

Marked out of 1.00

In the question below, is given **a statement** followed by **three assumptions** numbered **I, II and III**. An assumption is something supposed or taken for granted, you have to consider the statement and the assumptions and decide **which of the assumption(s) is/are implicit in the statement**.

Statement "To make a company commercially viable there is an urgent need to prune the staff strength and borrow money from the financial institutions.", opinion of a consultant.

Assumptions

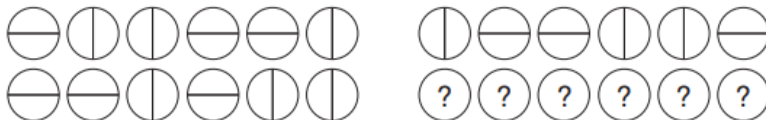
- I. The financial institutions lend money for such proposals.
- II. The product of the company has a potential market.
- III. The employees of the company are inefficient.

- a. I and II are implicit
- b. **None** is implicit
- c. Only Assumption II is implicit
- d. All are implicit
- e. I and III are implicit

Question 30

Not answered

Marked out of 1.00



Which set of diagrams below should replace the question marks?

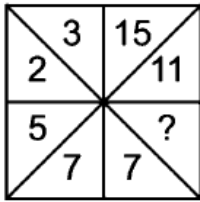
- a.
- b.
- c.
- d.
- e.

Question 31

Not answered

Marked out of 1.00

Find the missing character from the given alternatives.



- a. 6
- b. 5
- c. 2
- d. 4
- e. 3

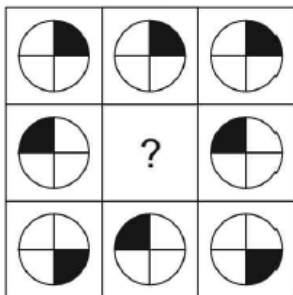
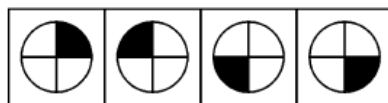
Question 32

Not answered

Marked out of 1.00

In the following question, a **problem figure matrix** is given with one or more terms missing, followed by **four answer figures**.

Find the correct answer figure that will replace?

Problem Figure**Answer Figures**

(a) (b) (c) (d)

- a. (b)
- b. (c)
- c. (a)
- d. (d)

Question 33

Not answered

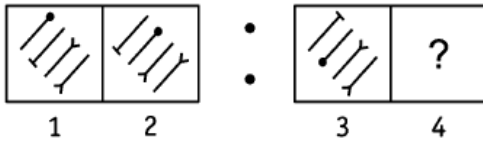
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The second figure in the first unit of the **problem figures** bears a certain relationship to the first figure.

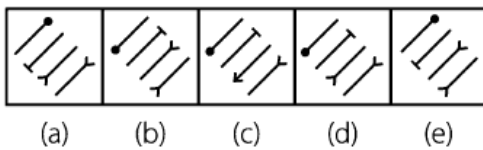
Similarly, one of the figure in the **answer figures** bears the same relationship to the first figure in the second unit of the **problem figures**.

Find the figure from the set of **answer figures** which would come in the place of question mark (?).

Problem Figures



Answer Figures

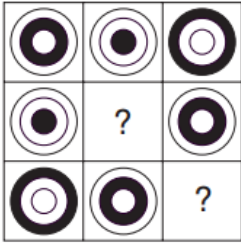


- a. c
- b. e
- c. d
- d. b
- e. a











Question 34

Not answered

Marked out of 1.00



Which two squares are missing?

- a.  
- b.  
- c.  
- d.  
- e.  

Question 35

Not answered

Marked out of 1.00

In the following question, **two statements** are given followed by two **three conclusions**. You have to consider the **statements** to be **true** even if they seem to be at variance from commonly known facts. You have to decide which of the given **conclusions**, if any **follow** from the given **statements**. *Indicate your answer.*

Statements

- Water has shape, has volume.
- The knowledge is like water, flowed from one side to other.

Conclusions

1. The knowledge is interdisciplinary.
2. The knowledge is bound within a specific area.
3. The knowledge influences the core of mental activity directly.

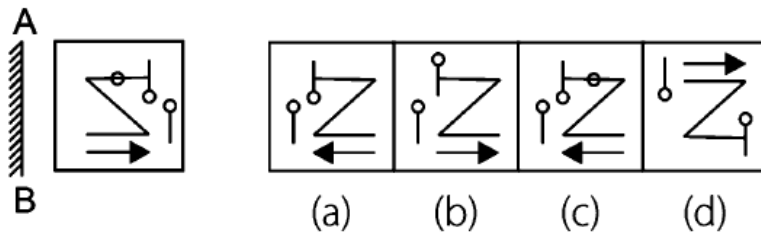
- a. Only 1st conclusion follows
- b. Both 1st and 2nd conclusions
- c. Only 2nd conclusion follows
- d. Only 3rd conclusion follows

Question 36

Not answered

Marked out of 1.00

In the following question, choose the **correct mirror image** from the alternatives (a), (b), (c) and (d), when **mirror** is placed on the **line AB**.



- a. (a)
- b. (b)
- c. (d)
- d. (c)

Question 37

Not answered

Marked out of 1.00

Each set of nine numbers relates to the other in a certain way. Work out the logic behind the numbers in the left-hand box in order to determine which number is missing from the right-hand box.

3	5	9		4	2	7
9	6	6		3	8	2
4	8	2		7	9	?

- a. 5
- b. 4
- c. 6
- d. 7
- e. 3

Question **38**

Not answered

Marked out of 1.00



What comes next?

a.



b.



c.



d.



e.



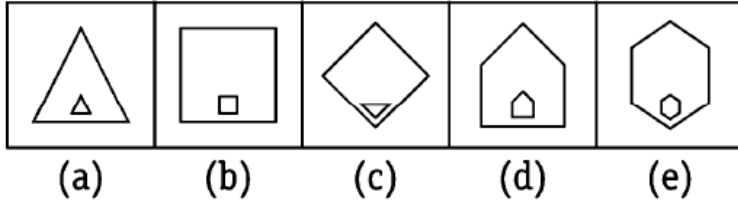
Question 39

Not answered

Marked out of 1.00

In the following question, a group of **five figures** is given. Out of which **four figures** are **similar** to each other in a certain way and **one** is **different** from other.

Find the **odd figure** out.



- a. (c)
- b. (a)
- c. (b)
- d. (d)
- e. (e)

Question 40

Not answered

Marked out of 1.00

In the question below are given **two statements** followed by **two conclusions** numbered I and II. You have to take the two given **statements** to be **true** even if they seem to be at variance from commonly **known facts** and decide **which of the given conclusion(s)** *logically follow(s) from the two given statements*, disregarding commonly known facts.

Statements No month is a year.
No year is a second.

Conclusions I. All months are seconds.
II. No second is month.

Give answer: _____

- a. if both I and II follow
- b. if only Conclusion II follows
- c. if neither I nor II follows
- d. if either I or II follows
- e. if only Conclusion I follows

Question 41

Not answered

Marked out of 1.00

Then it started to rain heavily and everyone ran for

- a. shelter
- b. dryness
- c. guard
- d. shadow

Question 42

Not answered

Marked out of 1.00

Which is a plural noun?

- a. Bus
- b. Dress
- c. Teeth
- d. Foot

Question 43

Not answered

Marked out of 1.00

When a large human-made dam breaks or fails to hold the water collected behind it, the results can be devastating. Dams contain such huge amounts of water behind them that when sudden breaks occur, the destructive force of the water is like a great tidal wave. Unleashed dam waters can travel tens of kilometres, cover the ground in metres of mud and debris, and drown and crush every thing and creature in their path. A broken human-made dam is compared to what?

- a. a tidal wave
- b. a tsunami
- c. overflowing
- d. a broken ice dam

Question 44

Not answered

Marked out of 1.00

Mother, please give me money.

- a. the
- b. a
- c. some
- d. any

Question 45

Not answered

Marked out of 1.00

The baby very quiet until that terrible noise outside started.

- a. had been
- b. has been
- c. 's been keeping
- d. keeps

Question 46

Not answered

Marked out of 1.00

This apple has exceptionally sweet taste.

- a. an
- b. much
- c. never
- d. the

Question 47

Not answered

Marked out of 1.00

That is

- a. eggs
- b. a egg
- c. egg
- d. an egg

Question 48

Not answered

Marked out of 1.00

He had plenty of time to sit the scenery.

- a. or walk around
- b. or feel
- c. to prove
- d. and enjoy

Question 49

Not answered

Marked out of 1.00

To help the brain focus, Dave recommends breaking big tasks down into smaller ones. He sets a timer and works as hard as he can for short periods of time until the timer alarm sounds. Then he takes a small break. This keeps his focus strong. Dave Farrow recommends breaking large tasks down into smaller ones in order to _____ .

- a. keep your motivation strong
- b. how wormlike creatures became humans
- c. keep your focus strong
- d. take as many rest periods as possible

Question 50

Not answered

Marked out of 1.00

She waited.....the bus in the bus stop.

- a. in
- b. with
- c. for
- d. of