GRE Algebra Practice Paper 6

Question 1

$\dfrac{x+2}{3} = \dfrac{x}{3}$ Solve for x.
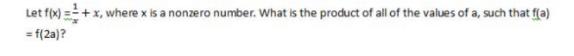
Possible Answers:

-3
-2
3
4
No solutions.

Question 2

If $5 + x$ is 5 more than 5, what is the value of $2x$?

Possible Answers:

15
5
10
20

Question 3

Let $f(x) = \frac{1}{x} + x$, where x is a nonzero number. What is the product of all of the values of a, such that f(a) = f(2a)?
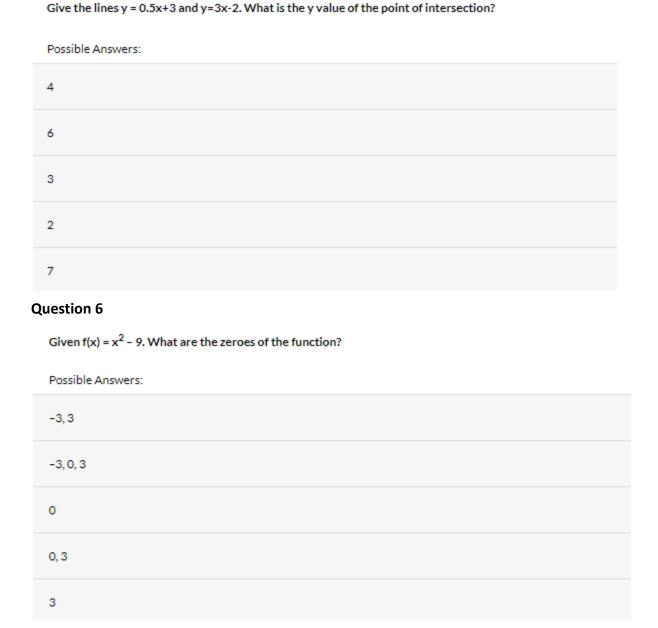
Possible Answers:

-1

0

1/2

1

-1/2

Question 4

If a%b = (2b + 3a)/(6ab), what would have a greater value, 2%3 or 3%2?

Possible Answers:

2%3

3%2

Cannot be determined

They are the same

Question 5

Give the lines y = 0.5x+3 and y=3x-2. What is the y value of the point of intersection?

Possible Answers:

4

6

3

2

7

Question 6

Given $f(x) = x^2 - 9$. What are the zeroes of the function?

Possible Answers:

-3, 3

-3, 0, 3

0

0, 3

3

Question 7

If y = 4 and 6y = 10z + y, then z = ?

Possible Answers:

2

24

4

6

30

Question 8

$\sqrt{(8y)} + 18 = 4$

What is y?

Possible Answers:

24.5

-24.5

14

-2

2

Question 9

$\sqrt{(3x)} = 9$

What is x?

Possible Answers:

3

-27

-3

27

9

Question 10

$\sqrt{(x^2 - 7)} = 3$

What is x?

Possible Answers:

4

-9

9/7

3/7

3

Question 11

If bx + c = e − ax, then what is x?

Possible Answers:

(e+c) / (b+a)

(b-a) / (e+c)

(b+a) / (e-c)

(e-c) / (b+a)

(e-c) / (b-a)

Question 12

If $2x^2(5-x)(3x+2) = 0$, then what is the sum of all of the possible values of x?

Possible Answers:

17/3

-13/3

13/3

5

-2/3

Question 13

Let x be a number. Increasing x by twenty percent yields that same result as decreasing the product of four and x by five. What is x?

Possible Answers:

50/7

25/14

25/19

100/19

25/7

Question 14

If $3 - 3x < 20$, which of the following could not be a value of x?

Possible Answers:

−4

−3

−6

−2

−5

Question 15

If $4x + 5 = 13x + 4 - x - 9$, then $x = ?$

Possible Answers:

−5/4
5/8
0
8
5/4

Question 16

If $6x = 42$ and $xk = 2$, what is the value of k?

Possible Answers:

1/6
5
7
2/7
1/7

Question 17

$$\frac{x}{30y} = 4$$

$$1797 + 3y = 15x$$

Quantity A

y

Quantity B

1

Possible Answers:

Quantity A is greater.

The quantities are equal.

Quantity B is greater.

The relationship cannot be determined from the information given.

Question 18

John has $50 for soda and he must buy both diet and regular sodas. His total order must have at exactly two times as many cans of diet soda as cans of regular soda. What is the greatest number of cans of diet soda John can buy if regular soda is $0.50 per can and diet soda is $0.75 per can?

Possible Answers:

25

50

75

None of the other answers

51

Question 19

If $8s - 6k = 4s - 2k$, then, in terms of s, $k =?$

Possible Answers:

$5s$

s

$2s$

Cannot be determined

$3s$

Question 20

If $5(3x + y) = 15$, what is x in terms of y?

Possible Answers:

$x = 3 - 3y$

$x = \dfrac{15 + 5y}{3}$

$x = 1 - \dfrac{y}{3}$

$x = 10 + \dfrac{y}{3}$

$x = \dfrac{10 - y}{3}$