GRE Algebra Practice Paper 3

Question 1

$a > 0$

Quantity A: $(a + 5)(4a + 2)$

Quantity B: $(4a + 5)(a + 2)$

Possible Answers:

The two quantities are the same.

The relationship cannot be determined.

Quantity B is greater.

Quantity A is greater.

Question 2

$(a + b)^2 = 34$

$\dfrac{ab}{2} = 6$

Quantity A: $a^2 + b^2$

Quantity B: 11

Possible Answers:

The relationship cannot be determined.

Quantity A is greater

The two quantities are equal.

Quantity B is greater

Question 3

Solve $|3 - 4x| < 0$.

Possible Answers:

$x < \dfrac{3}{4}$

$x > \dfrac{4}{3}$

No solutions

$x < \dfrac{4}{3}$

$x > \dfrac{3}{4}$

Question 4

Solve:

$-3(2x - 5) = 9 - 6x$

Possible Answers:

$\dfrac{15}{9}$

No Solution

9

Infinitely Many Solutions

15

Question 5

Solve:

$$3(2x - 6) + 2x = 7x - 12$$

Possible Answers:

−30
10
30
6
−6

Question 6

$$h(x) = \frac{28}{x + 4}$$

For which of the following values of x is the above function undefined?

Possible Answers:

−4
0
28
None of the other answers
4

Question 7

What value of x satisfies the equation below?

$$\frac{6}{4 + \left(\frac{x+3}{x}\right)} = \frac{12}{10}$$

Possible Answers:

1

−1/2

There is no solution

3

−3

Question 8

Which of the following values of x satisfies the equation

$$\frac{x^3}{1-x^2} = \frac{x}{x^2-1} ?$$

I. $x = 0$

II. $x = -1$

III. $x = 1$

Possible Answers:

III only

I only

II and III only

II only

I, II, and III

Question 9

Find the solution to the following equation if x = 3:

$y = (4x^2 - 2)/(9 - x^2)$

Possible Answers:

3

6

no possible solution

0

Question 10

Column A: $|x|$

Column B: x^3

Possible Answers:

Column A is greater.

Column B is greater.

The relationship cannot be determined.

The values are equal.

Question 11

$$y = 32$$
$$y = x^2 - 4$$

Quantity A: $\dfrac{y}{7}$

Quantity B: x

Possible Answers:

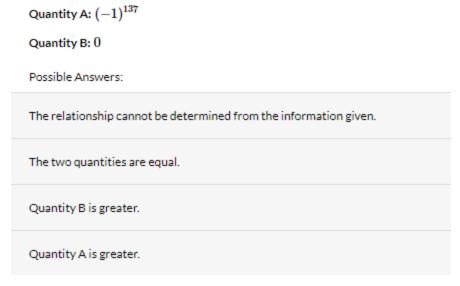| |
|---|
| The relationship cannot be determined from the information given. |
| The two quantities are equal. |
| Quantity A is greater. |
| Quantity B is greater. |

Question 12

$$2^{-5}$$

Possible Answers:

32
$\dfrac{1}{32}$
$-\dfrac{1}{32}$
2
-32

Question 13

Quantity A: $(-1)^{137}$

Quantity B: 0

Possible Answers:

The relationship cannot be determined from the information given.
The two quantities are equal.
Quantity B is greater.
Quantity A is greater.

Question 14

Quantitative Comparison: **Compare Quantity A and Quantity B, using additional information centered above the two quantities if such information is given.**

Quantity A   Quantity B

   4^3 3^4

Possible Answers:

Quantity A is greater.
The answer cannot be determined from the information given.
The two quantities are equal.
Quantity B is greater.

Question 15

Solve for x.

$$1024^x = \frac{1}{2}$$

Possible Answers:

-10
2
$\frac{1}{10}$
10
$-\frac{1}{10}$

Question 16

Solve for x.

$$1024^x = 2$$

Possible Answers:

$\frac{1}{10}$
10
-10
2
$-\frac{1}{10}$

Question 17

Solve for x.

$$4^{2x} = 16^6$$

Possible Answers:

6
4
10
8
12

Question 18

Solve for x.

$$5^x = 25^4$$

Possible Answers:

10
4
8
5
6

Question 19

Solve for x.

$$2^{x^2+4} = 32$$

Possible Answers:

$-1, 1$
5
-5
-1
1

Question 20

Solve for x.

$$2^{x+1} = 128$$

Possible Answers:

5
8
6
7
9