

GRE Algebra Practice Paper 4

Question 1

If $x^3 = 8$, then $x^2(4/(3-x))(2/(4-x)) - (4/x^2) = ?$

Possible Answers:

22

16

15

35

0

Question 2

If $a = \frac{1}{3}b$ and $b = 4c$, then in terms of c , $a - b + c = ?$

Possible Answers:

$-\frac{5}{3}c$

c

$\frac{5}{3}c$

$-\frac{11}{3}c$

Question 3

Jack has 14 coins consisting of nickels and dimes that total \$0.90. How many nickels does Jack have?

Possible Answers:

10

4

6

12

8

Question 4

$$11/(x - 7) + 4/(7 - x) = ?$$

Possible Answers:

$$(-7)/(7 - x)$$

15

$$7/(7 - x)$$

$$15/(7 - x)$$

$$15/(x - 7)$$

Question 5

If $2x + y = 9$ and $y - z = 4$ then $2x + z = ?$

Possible Answers:

5

13

21

29

Cannot be determined

Question 6

If $6h - 2g = 4g + 3h$

In terms of g , $h = ?$

Possible Answers:

$3g$

$4g$

g

$5g$

$2g$

Question 7

Kim is twice as old as Claire. Nick is 3 years older than Claire. Kim is 6 years older than Emily. Their ages combined equal 81. How old is Nick?

Possible Answers:

13

27

17

22

Question 8

A store sells potatoes for \$0.24 and tomatoes for \$0.76. Fred bought 12 individual vegetables. If he paid \$6.52 total, how many potatoes did Fred buy?

Possible Answers:

7

2

8

5

Question 9

Sarah's current age is three times Ron's age two years ago. Sarah is currently 14 years older than Ron. What is the sum of Sarah and Ron's current age?

Possible Answers:

32

34

24

36

Question 10

If $x = 4$, and $y = 3x + 5$, then $2y - 1$ equals

Possible Answers:

15

22

47

33

Question 11

What is the value of $(5 + x)(10 - y)$ when $x = 3$ and $y = -3$?

Possible Answers:

108

38

56

104

Question 12

If $a + 2b + c = 10$, $a + b + c = 15$, and $2a + b + 4c = 23$, what is the value of a ?

Possible Answers:

-26

-5

The answer cannot be determined from the information given.

-6

26

Question 13

Axel is traveling a distance of 120 miles to visit a relative in Phoenix. For the first half of his trip, he's traveled at a speed of 40 miles per hour. How fast will he need to drive from that point on in order to average a speed of 60 miles per hour?

Possible Answers:

80mph

180mph

90mph

120mph

240mph

Question 14

Satoshi and Reginald are bottlecap collectors, and Satoshi has 46 more bottlecaps than Reginald. If they were both to receive 6 bottle caps each, Satoshi would have three times as many bottle caps as Reginald. How many bottlecaps does Satoshi have?

Possible Answers:

63

21

52

143

86

Question 15

Four less than three times a certain number is equivalent to five plus four times this same number. What is three less than three times this number?

Possible Answers:

30

20

-30

-20

Question 16

In the equation below, m , p , and k are non-zero numbers. What is the value of m in terms of p and k ?

$$\frac{1}{m^3} - \frac{1}{k^2} = \frac{1}{p}$$

Possible Answers:

$$m = \left(\frac{p + k^2}{pk^2}\right)^{\frac{1}{3}}$$

$$m = p^{\frac{1}{3}} - k^{\frac{1}{3}}$$

$$m = \frac{p^2k^3}{p + k^2}$$

$$m = \left(\frac{p + k^2}{2}\right)^3$$

$$m = \left(\frac{pk^2}{p + k^2}\right)^{\frac{1}{3}}$$

Question 17

The equations of two lines are given by $y = mx + b$ and $y = -\frac{x}{m}$, where m and b are constants, and $m \neq 0$. Which of the following represents the y -coordinate of the point of intersection between the two lines?

Possible Answers:

$$bm/(m^2 + 1)$$

$$-bm/(m^2 + 1)$$

$$-b/(m^2 - 1)$$

$$b/(m^2 + 1)$$

$$-b/(m + 1)$$

Question 18

$\frac{2x-4}{x^2+1} + \frac{1}{x-1} = \frac{Ax^2+Bx+C}{x^3-x^2+x-1}$, where $x \neq 1$, and where A, B, and C are integers.

What is the value of A+B+C?

Possible Answers:

-1

0

-2

2

1

Question 19

The sum of two integers is 22. The larger integer is 20% greater than the smaller integer. What is the positive difference between the two?

Possible Answers:

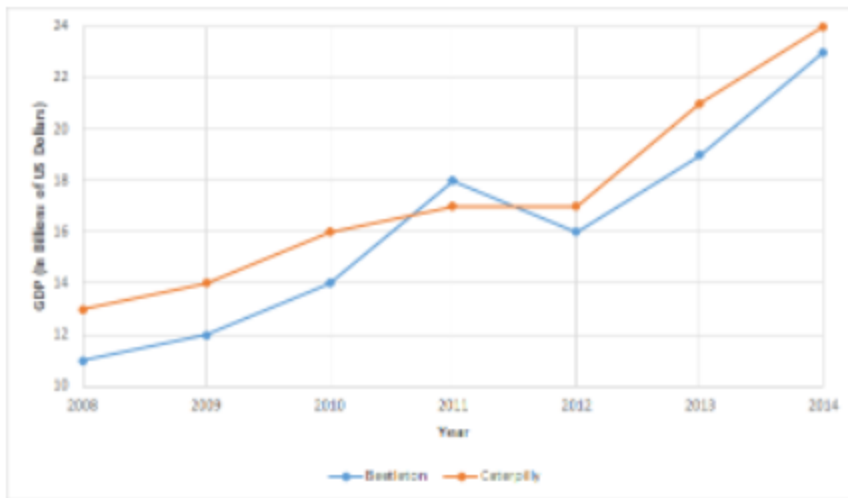
8

6

2

4

Question 20



Approximately, what was the percent growth of Beetleton's GDP from 2009 to 2010?

Possible Answers:

86%

117%

17%

14%