BASIC CONCEPTS

1)

If a, b, c are distinct positive integers, and

$$\frac{a}{b}+1=c\ ,\ a+b=12$$

then what is the sum of all possible values for b?

A) 6 B) 10 C) 15 D) 18 E) 22

2)

Given that a, b, and c are positive integers and

$a\cdot b=5$

$a\cdot c=15$

What is the smallest possible value of $a+b+c$?

A) 9 B) 10 C) 11 D) 12 E) 13

3)

a, b, and c are positive integers and

$a\cdot b=12$

$a\cdot c=16$

What is the largest possible value of $a+b+c$?

A) 11 B) 21 C) 29 D) 32 E) 33

4)

a, b, and c are integers and

$a\cdot b=12$

$a\cdot c=16$

What is the smallest possible value of $a+b+c$?

A) -10 B) -11 C) -20 D) -24 E) -29

5)

Given that a and b are distinct positive integers, and

$a+b=12$

What is the sum of the minimum and maximum possible values for the expression $a\cdot b$?

A) 35 B) 40 C) 42 D) 46 E) 47

6)

a and b are negative integers, and

$a+b=-10$

What is the minimum value of the product $a\cdot b$?

A) 9 B) 16 C) 24 D) 25 E) 27

7)

a and b are integers, and

$a\cdot b=15$

How much greater is the largest value of $a\cdot b$ compared to the smallest value of $a\cdot b$?

A) 0 B) 8 C) 20 D) 24 E) 32

8)

a and b are natural numbers, and

$a\cdot b=8$

What is the smallest value of the expression $5a-2b$?

A) -16 B) -13 C) -11 D) 0 E) 12

BASIC CONCEPTS

9)

$$\frac{x}{3^2.5}+\frac{y}{2^2.3}-\frac{z}{2.3.5}=\frac{1}{18}$$

What is the value of the expression $4x + 15y - 6z$?

A) 8 B) 10 C) 12 D) 14 E) 16

10)

a, b, c are distinct integers, and

$$a\cdot b=\frac{24}{c}$$

What is the minimum possible value of the sum $a+b+c$?

A) -24 B) -9 C) 0 D) 9 E) 26

11)

a, b, and c are single digits.

If $a=2b$ and $2a=c$,

What is the sum of the minimum and maximum possible values of $a+b+c$?

A) 7 B) 10 C) 12 D) 14 E) 21

12)

a, b, and c are negative integers.

$\frac{a}{b}=\frac{3}{4}$ ve $c=3b$

What is the maximum possible value of the sum $a+b+c$?

A) 6 B) 11 C) -5 D) -17 E) -19

13)

a and b are natural numbers.

Given that $3a+4b=48$,

how many distinct values can $a+b$ take?

A) 5 B) 6 C) 7 D) 8 E) 9

14)

a, b, and c are distinct natural numbers.

$5a+4b+3c=75$

What is the largest possible value that c can take?

A) 19 B) 20 C) 21 D) 22 E) 23

15)

Let x and y be two – digit natural numbers, and

$x-y = 36$

How many different values of x satisfy this equation?

A) 53 B) 54 C) 55 D) 56 E) 57

ANSWER KEY

1	B	**6**	A	**11**	D
2	A	**7**	E	**12**	E
3	C	**8**	C	**13**	A
4	E	**9**	B	**14**	C
5	D	**10**	A	**15**	B