

# GRE QUANT PRACTICE PAPER

1. Given the functions  $f(x) = 2x + 4$  and  $g(x) = 3x - 6$ , what is  $f(g(x))$  when  $x = 6$ ?

144

12

28

192

16

2. A jet goes from City 1 to City 2 at an average speed of 600 miles per hour, and returns along the same path at an average speed of 300 miles per hour. What is the average speed, in miles per hour, for the trip?

300miles/hour

400miles/hour

350miles/hour

450miles/hour

500miles/hour

3. If  $f(x) = 3x + 7$  and  $g(x) = x^2 - 12$ , what is  $f(g(x))$ ?

$3x^3 - 29$

9x<sup>2</sup>-29

3x<sup>2</sup>+29

3x<sup>2</sup>-29

9x<sup>3</sup>+29

4. What is  $f(-3)$  if  $f(x) = x^2 + 5$ ?

-14

4

15

14

-4

5. An outpost has the supplies to last 2 people for 14 days. How many days will the supplies last for 7 people?

4

9

5

10

7

$$f(x) = 3x^2 - 5$$

$$g(x) = 9 - 2x$$

6. Find  $f(g(5))$ .

-1

4

131

-2

70

Find  $f(6)$

7.  $f(x) = |x^2 + 4x - 127|$

-136

-36

-67

67

36

8. A function  $f(x) = -1$  for all values of  $x$ . Another function  $g(x) = 3x$  for all values of  $x$ . What is  $g(f(x))$  when  $x = 4$ ?

-12

-3

3

-1

12

9. Worker  $A$  can make a trinket in 4 hours, Worker  $B$  can make a trinket in 2 hours. When they work together, how long will it take them to make a trinket?

6 hours

$\frac{1}{2}$  hour

$1\frac{1}{3}$  hours

3 hours

$1\frac{1}{2}$  hours

10. For all values of  $x$ ,  $f(x) = 7x^2 - 3$ , and for all values of  $y$ ,  $g(y) = 2y + 9$ . What is  $g(f(x))$ ?

$7y^2 - 3$

$14x^2 + 3$

$14y^2 + 3$

$14x^2 - 3$

$2x + 9$

11.  $a \cup b = a(b + 1) - 3$

$$\frac{\text{Quantity A}}{1 \cup 1}$$

$$\frac{\text{Quantity B}}{2 \cup 0}$$

The relationship cannot be determined from the information given.

Quantity A is greater

Quantity A and Quantity B are equal

Quantity B is greater

12. Alice is twice as old as Tom, but four years ago, she was three years older than Tom is now. How old is Tom now?

7

13

21

3

9

13. If the average of two numbers is  $3y$  and one of the numbers is  $y + z$ , what is the other number, in terms of  $y$  and  $z$ ?

$5y + z$

$4y - z$

$3y + z$

$5y - z$

$y + z$

14. What is the value of the function  $f(x) = 6x^2 + 16x - 6$  when  $x = -3$ ?

-108

-12

0

96