



## **Practice with Logic**

Please choose the best answer to each of the following questions.

1. If I know that  $6(1) = 6$ ,  $10(1) = 10$ ,  $42(1) = 42$ , and  $-89(1) = -89$  I can generalize that a number multiplied by 1 is

Negative

The number itself

Positive

Greater than zero

2. If I know that  $9(1) = 9$ ,  $9(2) = 18$ ,  $9(3) = 27$ ,  $9(4) = 36$ , and  $9(9) = 81$  I can generalize that for any positive number multiplied by 9

The answer will be even

The answer will be odd

The answer will be greater than 27

The sum of the resulting digits will be 9

3. According to the principle of equality, if  $p - q = x$  then  $q + x =$

$x$

$p$

$q$

4. According to the principle of equality, if  $10x = r$  then

$x =$

$\frac{r}{10}$

$0$

$\frac{10}{r}$

$10r$

5. If I see the pattern 2, 4, 6, 8, 10, 12, 14, I can generalize that the pattern increases each time by 2.

True

False

6. After taking 100% of several different numbers, I would be able to generalize that the result will always be

1

Positive

A fraction

The number itself

7. Given the generalization that the square of a number is always larger than the original, the value that disproves this is:

12

1

-10

-1

8. Given the generalization that it rains every Monday, a value that disproves this is ....

Sunny Sunday

Rainy Monday

Rainy Thursday

Monday with no Rain

9. When solving for the speed of a car, if our answer is 3,000 miles per hour. We can conclude that the answer is

Not reasonable

Correct

Approximate

10. If polar bears are only white at the north pole, and there are no zoos there, then you cannot see polar bears at the zoo.

True

False

11.  $y(r) = 5r^{10} - 6r^9$

$$\int y \, dr = (?) + c$$

$$\frac{r^{11}}{2} - \frac{2r^{10}}{3}$$

$$\frac{r^{10}}{2} - \frac{3r^{10}}{2}$$

$$5r^{11} - 6r^{10}$$

$$\frac{5r^{11}}{11} - \frac{3r^{10}}{5}$$

12.  $g(r) = -\cos(r)$  The third integral of  $g(r) =$

$$\sin(r) + C$$

$$\cos(r) + Ar + B$$

$$-\sin(r) + \frac{r^2}{2} + r + C$$

$$\sin(r) + Ar^2 + Br + C$$

13.  $\int (-48)dk = (?) + c$

$$-48$$

$$-24k^2$$

$$-48k$$

$$\frac{1}{48k}$$

$$14. \int e^{\sin(6x)} \cos(6x) dx = (?) + c$$

$$\frac{\cos(6x)}{6} e^{\sin(6x)}$$

$$e^{\sin(6x)}$$

$$\frac{1}{6} e^{\sin(6x)}$$

$$-e^{\cos(6x)}$$

$$15. \int -\frac{2dx}{5x} = (?) + c$$

$$-\frac{2}{5} \ln x$$

$$-2 \ln(5x)$$

$$\ln\left(-\frac{5x}{2}\right)$$

$$-\frac{2}{5} \ln\left(\frac{1}{x}\right)$$

