

## Chapter 5 – Equations and Inequalities on the SAT

### Pre Test

1.)

If  $3x + 7 = 49$ , what is the value of  $x + 4$ ?

- A) 12
- B) 14
- C) 16
- D) 18

2.)

If  $q = \frac{\left(\frac{3+x}{5}\right)\left(4-\frac{x}{2}\right)^3}{2+\left(\frac{x}{9}-17\right)}$  what is  $r$  in terms of  $q$  and  $x$ ?

- A)  $r = \frac{\left(\frac{3+x}{5}\right)\left(4-\frac{x}{2}\right)^3}{2+\left(\frac{x}{9}-17\right)} q$
- B)  $r = \frac{\left(\frac{3+q}{5}\right)\left(4-\frac{q}{2}\right)^3}{2+\left(\frac{q}{9}-17\right)}$
- C)  $r = \left(\frac{12+x}{-17q}\right)^3$
- D)  $r = \frac{2+\left(\frac{x}{9}-17\right)}{\left(\frac{3+x}{5}\right)\left(4-\frac{x}{2}\right)^3} q$

3.)

What is the solution to the following system of equations?

$$3x + y = -5$$

$$2x - 2y = -22$$

- A.  $(-4, 7)$
- B.  $\left(-\frac{3}{2}, -\frac{1}{2}\right)$
- C.  $\left(-\frac{1}{2}, \frac{3}{2}\right)$
- D.  $(4, -7)$

4.)

If  $x > 0$  and  $2x^2 - 13x - 7 = 0$ , what is the value of  $x$ ? \_\_\_\_\_

5.)

Which of the following is NOT a solution to the inequality  $5x + 3 \geq 9x - 5$ ?

- A) 0
- B) 1
- C) 2
- D) 3

6.)

What are the solutions to  $3x^2 + 12x - 6 = 0$ ?

- A)  $-3 \pm \sqrt{6}$
- B)  $-2 \pm \sqrt{6}$
- C)  $2 \pm \frac{\sqrt{6}}{6}$
- D)  $2 \pm \sqrt{2}$

**Answer Key:**

1.) D

2.) D

3.) A

4.) 7

5.) D

6.) B