

No Calculator – 20 Minutes Timed

Find the answer key at www.AlgebraNinja.com

Name: _____ Hour: _____

TMT Equation 20 ACT Prep V3

1. Solve for x : $2(x - 1) = 2x + 2$

2. Solve for y in terms of x : $7x + 4y = 8 - x$

3. Solve for x : $6 + 2x - 4x = -2(x - 4) - 2$

4. Solve for x . Keep in logarithmic form:
 $2^x = 6$

5. Using elimination, solve for x and y :
$$\begin{cases} 7x + 3y = 10 \\ 2x + y = 5 \end{cases}$$

6. Write and solve the following:
A number doubled and increased by 1 is equivalent to 5 less than the number tripled.

7. Solve for x : $\log_4 x = 3$

8. Use substitution to solve for x and y :
$$\begin{cases} -3x - 2y = -12 \\ -5x + y = -7 \end{cases}$$

9. Solve for x : $x^2 - x - 6 = 0$

10. Solve for x in terms of c : $x + 5 = cx - 2$

11. Solve for x : $2x^2 - 12x = -8$

12. Solve for x : $3x - 10 < 2$

13. Solve for x : $7^{3x+1} = 49^{x-3}$
(hint: get the bases the same)

14. Solve for x : $\frac{1}{2x} + 5 = \frac{4}{5}$

15. Solve for t in terms of v and a : $v = \frac{1}{2}at^2$

16. Write and solve the exponential equation:
For a savings account with 2% annual interest, how much money would you have after 2 years if \$100 was initially put in?

17. Solve for x : $-3|x + 7| = -21$

18. Write and solve the system of equations:
The water in a 50 L tank leaks 1 L per week. A 30 L tank leaks 0.5 L per week. In how many weeks will the tanks have the same amount of water?

19. Solve for x : $x^3 - 3x^2 - 9x + 24 = -3$

20. Solve for x : $-\frac{1}{2}(x - 3)^2 + 2 = -6$