

No Calculator

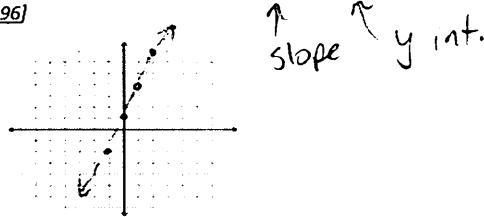
Find videos on each [skill] at [www.AlgebraNinja.com](http://www.AlgebraNinja.com) Name: KEY Hour:       

**Basic 20 ACT Prep Version 1**

1. Solve  $\frac{3x}{3} = \frac{8}{3}$  [76]

$x = \frac{8}{3}$

2. Graph the equation  $y = 3x + 1$  [196]



3. Write and solve an equation for the sentence: Two more than three times a number is equivalent to 14. [219]

$$\begin{array}{r} 3n + 2 = 14 \\ -2 \quad -2 \\ \hline 3n = 12 \\ \frac{3n}{3} = \frac{12}{3} \\ n = 4 \end{array}$$

4. Find the slope given points (-3,2) & (7,8) [191]

$$\frac{8-2}{7-(-3)} = \frac{6}{10} = \frac{3 \cdot 2}{5 \cdot 2} = \frac{3}{5}$$

5. Simplify  $\frac{8}{3} \cdot \frac{5}{2}$  [42]

$$\frac{4 \cdot 2}{3} \cdot \frac{5}{2} = \frac{20}{3}$$

6. Distribute  $3(x-5)$  [8]

$$3x - 15$$

7. Simplify (PEMDAS)  $8(0+1)^2 + 5$  [212]

$$\begin{array}{l} 8(1)^2 + 5 \\ 8 \cdot 1 + 5 \\ 8 + 5 = 13 \end{array}$$

8. Simplify  $-3 + 5$  [5]

$$2$$

9. Solve  $3\frac{1}{3}a = 10$  [78]

$$a = 30$$

10. Find the area of a triangle that has a base = 4 and height = 3 [147]



$$\begin{array}{l} a = \frac{1}{2} \cdot b \cdot h \\ a = \frac{1}{2} \cdot 4 \cdot 3 \\ a = 2 \cdot 3 \\ a = 60^2 \end{array}$$

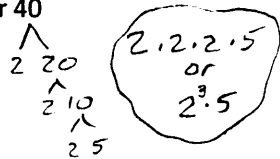
11. If  $f(x) = 9x - 1$ , evaluate at  $x = -2$  [110]

$$9(-2) - 1 = -18 - 1 = -19$$

12. Simplify  $3y2mymmm^3m5y$  [206]

$$3 \cdot 2 \cdot 5 \cdot yyy m m m m m^3 = 30y^3m^6$$

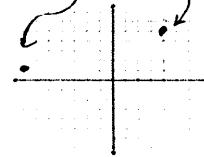
13. Use Prime factorization to factor 40 [252]



14. Simplify  $\frac{\frac{3}{2}}{\frac{7}{4}}$  [50]

$$\frac{3}{2} \cdot \frac{4}{7} = \frac{21}{7}$$

15. Graph the points (-7,1) & (4,5) [251]



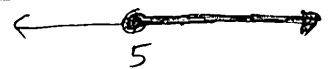
16. Find 3 points on  $f(x) = 3x - 2$  [185]

X	Y
0	-2
1	1
2	4

17. Solve  $x + 2x + 5 = 8$  [253]

$$\begin{array}{r} 3x + 5 = 8 \\ -5 \quad -5 \\ \hline 3x = 3 \\ x = 1 \end{array}$$

18. Graph on a number line: "x is greater than or equal to 5." [224]



19. Simplify  $\frac{3}{7} + \frac{1}{3}$  [39]

$$\frac{3 \cdot 3}{7 \cdot 3} + \frac{1 \cdot 7}{3 \cdot 7} = \frac{9}{21} + \frac{7}{21} = \frac{16}{21}$$

20. simplify  $-6 - |-3|$  [21]

$$-6 - 3 = -9$$