

No Calculator

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KEY

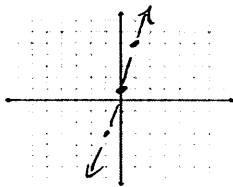
Hour: _____

Basic 20 ACT Prep Version 3

1. Solve $\frac{7x}{7} = \frac{2}{7}$ [26]

$x = \frac{2}{7}$

2. Graph the equation $y = 4x + 1$ [196]



slope ↑
y intercept ↑

3. Write and solve an equation for the sentence: three more than five times a number is equivalent to 17. [219]

$$\begin{array}{r} 5n + 3 = 17 \\ -3 \quad -3 \\ \hline 5n = 14 \end{array}$$

$$\frac{5n}{5} = \frac{14}{5}$$

$n = \frac{14}{5}$

4. Find the slope given points $(-5, 3)$ & $(7, 9)$ [191]

$$m = \frac{9 - 3}{7 - (-5)} = \frac{6}{12} = \frac{1}{2}$$

5. Simplify $\frac{1}{6} \cdot \frac{8}{3}$ [42]

$$\frac{1}{\cancel{2} \cdot 3} \cdot \frac{\cancel{4} \cdot 2}{3} = \frac{4 \cdot 1}{3 \cdot 3} = \frac{4}{9}$$

6. Distribute $5(x - 4)$ [8]

$5x - 20$

7. Simplify (PEMDAS) $1 + 3(2)^2 + 5$ [212]

$$\begin{array}{l} 1 + 3 \cdot 4 + 5 \\ 1 + 12 + 5 \\ \hline 18 \end{array}$$

8. Simplify $-9 + 6$ [5]

-3

9. Solve $\frac{5}{5}a = 12$ [28]

$a = 60$

10. Find the area of a triangle that has a base = 5 and height = 6 [147]



$$\begin{array}{l} A = \frac{1}{2} \cdot b \cdot h \\ \frac{1}{2} \cdot 5 \cdot 6 \\ \frac{1}{2} \cdot 30 \\ \hline 15 \end{array}$$

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11. If $f(x) = 7x - 4$, evaluate at $x = -3$ [110]

$$\begin{array}{l} 7(-3) - 4 \\ -21 - 4 = -25 \end{array}$$

12. Simplify $7y^2ym^3m^2y$ [206]

$$7 \cdot 2 \cdot 2 y y m m m^3 = 28y^3m^5$$

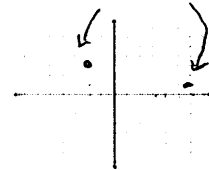
13. Use Prime factorization to factor 50 [252]

$$\begin{array}{l} 2 \cdot 25 \\ \quad \swarrow \searrow \\ \quad 5 \quad 5 \end{array} = \begin{array}{l} 2 \cdot 5 \cdot 5 \\ \text{or} \\ 2 \cdot 5^2 \end{array}$$

14. Simplify $\frac{\frac{5}{2}}{\frac{3}{10}}$ [50]

$$\frac{5}{2} \cdot \frac{10}{3} = \frac{50}{6}$$

15. Graph the points $(-2, 3)$ & $(6, 1)$ [251]



16. Find 3 points on $f(x) = 7x - 1$ [185]

many possible choices for Xs

X	Y
0	-1
1	6
2	13
-1	-8

17. Solve $x + 6x + 5 = 12$ [253]

$$\begin{array}{r} 7x + 5 = 12 \\ -5 \quad -5 \\ \hline 7x = 7 \\ \quad \swarrow \searrow \\ \quad 1 \quad 1 \end{array} \quad x = 1$$

18. Graph on a number line: "x is less than or equal to 6." [224]



19. Simplify $\frac{3}{8} + \frac{1}{3}$ [39]

$$\frac{3 \cdot 3}{8 \cdot 3} + \frac{1 \cdot 8}{3 \cdot 8} = \frac{9}{24} + \frac{8}{24} = \frac{17}{24}$$

20. simplify $-8 - |-2|$ [21]

$$-8 - 2 = -10$$