

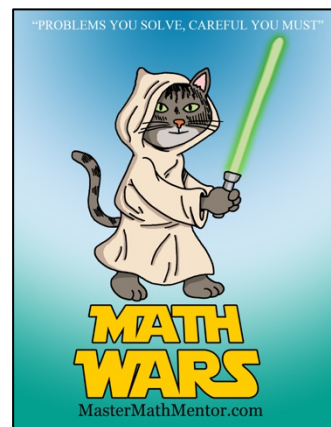
Math Wars – SAT/ACT

Topic 506 – Linear Equations



Maximum Time: 6.5 Minutes

Directions: To start, you need to download the Math Wars application on your cell phone: Use the QR code or the url: <https://mastermathmentor.com/mmm/mathwars.ashx?key=506>



When ready, start the timer and then solve the problems below, entering your choice, A, B, C, D and pressing for each problem when you are sure of your answer. When complete, stop the timer. You will see problems you got correct in green and incorrect in red. You will receive a score based on how many problems you got right and your time. A perfect score is all problems correct using half the maximum time or less. You can text or email your friends with your results.

1. (1 pt) Given the equation $3x - 2y = 5$, find the slope of the line.

A. $-\frac{5}{2}$

B. -3

C. 3

D. $\frac{3}{2}$

2. (3 pts) Given the equation $\frac{2x}{3} - \frac{y}{4} - 2 = 0$, find the product of the x - and y -intercepts.

A. 6

B. -24

C. $\frac{1}{6}$

D. -8

3. (5 pts) Given the equation $-2x + 3y + 2 = 0$, find the equation of the line perpendicular to the given line passing through $(-2, 5)$.

A. $x + 2y = 8$

B. $3x + 2y = 4$

C. $2x - y = -9$

D. $2x - 3y = -19$

4. (7 pts) An architect designs an office building. Each floor has 10 rooms with the exception of the bottom floor and top floor, each having 5 rooms. Write a function that describes the number rooms in the building with f floors. ($f \geq 2$).

A. $10f$

B. $10f + 10$

C. $10f + 10$

D. $10f - 10$

5. (9 pts) A line passes through the points $(4, -2)$ and $(-2, a)$ and has slope of $\frac{2}{3}$. Find the distance from $(-2, a)$ to the origin.

A. $2\sqrt{10}$

B. 6

C. 8

D. $2\sqrt{2}$