

Math-8 Algebra 2

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Equation of Line - Practice Exam

Feb. 17, 2014

Name: _____

Score: _____ out of **135** points. Percent: _____. Grade: _____.

- Partial credit is given. Clearly written well reasoned solutions make it easier for the grader to appreciate what you know. Messy or poorly reasoned solutions have the opposite effect.
- You have 45 minutes and there are 11 questions. So you have an average of 4.1 minutes per question. You have time to double check your work.
- A lot of space follows each question. That does not necessarily mean the solution is long.
- Answers must be completely simplified: fractions in lowest terms, all arithmetic performed.
- Advice. First pass: skip problems you cannot do easily. Second pass: work problems you skipped on first pass.

1. (11 points) Find the slope of the line through the points $(3, -5)$, $(-7, 9)$.

2. (6 points) At what point do the lines $x = 8$ and $y = -2$ intersect?

3. (6 points) Are the lines $y = \frac{1}{5}x - 221$ and $y = \frac{-1}{5}x + 63$ parallel?

4. (6 points) Are the lines $y = \frac{2}{11}x - 635$ and $y = \frac{2}{11}x + 113$ parallel?

5. Consider the equation $y = \frac{-2}{7}x - \frac{3}{5}$.

(a) (5 points) What the slope?

(b) (5 points) What is the y-intercept?

(c) (5 points) What the x-intercept?

6. For the equation $2x + 5y = 19$,

(a) (9 points) What is the slope?

(b) (9 points) What is the y-intercept?

7. (19 points) Write the equation of the line that is parallel to $2x + 3y = 1$ and goes through the point $(-2, 7)$. Answer in standard form.

8. (19 points) Write the equation of the line through the points $(-2, 3)$ and $(5, -10)$. Answer in standard form.

9. (10 points)

Find the number a that would make the line $y = ax + 5$ parallel to the line $2x - 3y = 1$.

10. (15 points) Let ℓ_1 be the line $y = -\frac{3}{4}x + \frac{3}{2}$ and ℓ_2 be the line $y = \frac{-5}{3}x - \frac{1}{3}$. At what point (if any) do the lines ℓ_1 and ℓ_2 intersect?

11. (10 points) At what point does the equation of the line through the points $(-1, 5)$ and $(21, 36)$ intersect the y -axis?