

Geometry HW 9/12, due 9/16 *Please show all work for full credit, and remember to write the line equations in $y = mx + b$ form to compare the slopes.

20. The equations of four lines are given. Identify which lines are parallel.

I. $3x + 2y = 10$

II. $-9x - 6y = -8$

III. $y + 1 = \frac{3}{2}(x - 6)$

IV. $-5y = 7.5x$

A. I, II, and IV

C. III and IV

B. I and II

D. None of the lines are parallel

22. Given the two lines below, which statement is true?

Line 1: $x - 3y = -15$ and *Line 2:* $y = 3(x + 2) - 1$

A. The lines are parallel.

B. They are the same line.

C. The lines are perpendicular.

D. The lines intersect but are not perpendicular.

23. Which equation of the line passes through (8, 10) and is parallel to the graph of the line $y = \frac{8}{3}x + 7$?

A. $y = \frac{8}{3}x - \frac{34}{3}$

C. $y = 6x - \frac{34}{3}$

B. $y = \frac{8}{3}x + \frac{8}{3}$

D. $y = 16x + \frac{8}{3}$

24. Which equation of the line passes through (4, 7) and is perpendicular to the graph of the line that passes through the points (1, 3) and (-2, 9)?

A. $y = 2x - 1$

C. $y = \frac{1}{2}x - 5$

B. $y = \frac{1}{2}x + 5$

D. $y = -2x + 15$

Solutions: 20.) A, 22.) D, 23.) A, 24.) B