

Test 2 Solutions Algebra

PS ①

1. a) x-int = $(8, 0)$

b) y-int = $(0, 4)$

c) $m = \frac{4-0}{0-8} = \frac{4}{-8} = \boxed{-\frac{1}{2}}$

d) $y = mx + b$ $m = -\frac{1}{2}$ $b = 4$

$y = -\frac{1}{2}x + 4$

2. b. $m = 2$ through $(-1, 3)$
 $y = 2x + b$ plus in $(-1, 3)$ to

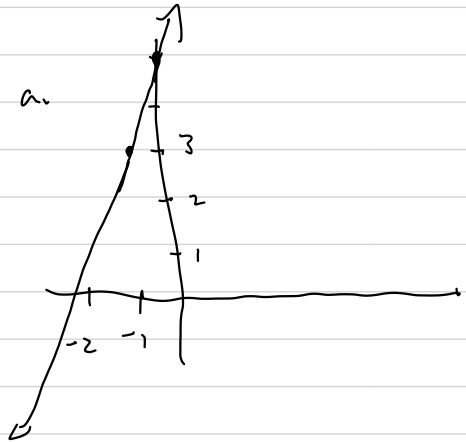
$$3 = 2 \cdot (-1) + b$$

$$3 = -2 + b$$

$$\begin{array}{r} +2 \quad +2 \\ \hline \end{array}$$

$$5 = b$$

$y = 2x + 5$



3. a) $2y + 6x = 8$

$$\begin{array}{r} -6x \quad -6x \\ \hline \end{array}$$

$$\frac{2y}{2} = \frac{-6x + 8}{2}$$

$$y = -3x + 4$$

a) slope = -3

b) y-int = 4

Test 2 Solutions Algebra

ps ②

4. slope = 2 y -int = 11

$$y = 2x + 11$$

5. slope = $-\frac{1}{2}$ y -int = 11

$$y = -\frac{1}{2}x + 11$$

6. a) T

b) T

c) F

d) T

e) T

f) F

g) T

h) F

i) T

j) F

7. a) $|5| = 5$

b) $| -8 | = 8$

c) $| 5 - 3 | = 2$

d) $| 3 - 5 | = 2$

e) $| 2 \cdot 5 - 3 | = 7$

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pg (3)

$$\begin{array}{r} 8. a) \quad x + 8 \geq 13 \\ \quad \quad -8 \quad -8 \\ \hline \end{array}$$
$$x \geq 5$$

$$\begin{array}{r} b) \quad 2x \geq 22 \\ \quad \quad \underline{\quad} \quad \underline{\quad} \\ \end{array}$$
$$x \geq 11$$

$$\begin{array}{r} c) \quad 2x - 7 \geq 31 \\ \quad \quad +7 \quad +7 \\ \hline \end{array}$$
$$\begin{array}{r} 2x \geq 38 \\ \underline{\quad} \quad \underline{\quad} \\ \end{array}$$
$$x \geq 19$$

$$\begin{array}{r} d) \quad 1 \leq 2x - 5 \leq 13 \\ \quad \quad +5 \quad \quad +5 \quad +5 \\ \hline \end{array}$$
$$\begin{array}{r} 6 \leq 2x \leq 18 \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \\ \end{array}$$
$$3 \leq x \leq 9$$

$$\begin{array}{r} e) \quad -3x - 6 \geq 18 \\ \quad \quad +6 \quad +6 \\ \hline \end{array}$$
$$\begin{array}{r} -3x \geq 24 \\ \underline{\quad} \quad \underline{\quad} \\ \end{array}$$
$$x \leq -8$$

Test 2 Solutions Algebra

PS (4)

9. a) $\mathbb{D} = (-\infty, \infty)$
b) \mathbb{R} $(y \geq -1)$

10. a) $[-1, 5)$

The diagram shows a horizontal number line with arrows at both ends. A red bracket starts at the point -1 and ends at the point 5. The point -1 is marked with a red '[' symbol, and the point 5 is marked with a red ')' symbol.

b) $[5, \infty)$

The diagram shows a horizontal number line with arrows at both ends. A red bracket starts at the point 5 and extends to the right. The point 5 is marked with a red '[' symbol, and the right end of the bracket is marked with a red ')' symbol.

c) $(-\infty, 5)$

The diagram shows a horizontal number line with arrows at both ends. A red bracket extends from the left to the point 5. The left end of the bracket is marked with a red '(' symbol, and the point 5 is marked with a red ')' symbol.

d) $(1, 3)$

The diagram shows a horizontal number line with arrows at both ends. A red bracket starts at the point 1 and ends at the point 3. Both the point 1 and the point 3 are marked with red '(' and ')' symbols, respectively.