

Name _____

This review is identical in format to the Chapter 1 exam. Only the order and actual values of the questions will vary.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Determine the equation of the line described. Put answer in the slope-intercept form, if possible.

1) Through (1, 12), parallel to $-8x + 5y = 37$ 1) _____

A) $y = -\frac{1}{5}x + \frac{37}{5}$

B) $y = \frac{5}{8}x - \frac{3}{2}$

C) $y = \frac{8}{5}x + \frac{52}{5}$

D) $y = -\frac{8}{5}x - \frac{52}{5}$

2) Through (-4, -1), perpendicular to $x = -3$ 2) _____

A) $y = -3$

B) $x = -3$

C) $y = 1$

D) $y = -1$

3) Through (3, 5), perpendicular to $7x + 3y = 36$ 3) _____

A) $y = \frac{3}{7}x + \frac{26}{7}$

B) $y = \frac{7}{3}x - 26$

C) $y = -\frac{3}{7}x - \frac{26}{7}$

D) $y = \frac{3}{7}x$

Provide an appropriate response.

4) Write the general equation of any line that passes through the origin. 4) _____

A) $y = 0$

B) $y = mx + b$

C) $x = 0$

D) $y = mx$

5) If the y-intercept of the linear function $y = b + 3x$ lies below the x-axis, then what can you say about b? 5) _____

A) $b > 0$

B) $b = 0$

C) $b \geq 0$

D) $b < 0$

6) Given $a = -1$, $b = -12$, which of the following statements is false? 6) _____

A) $|a| = -ab$

B) $|a/b| = a/b$

C) $|a| + |b| = -(a+b)$

7) In the linear function, $y = -10 - 9x$, -10 is the ? of the function. 7) _____

A) y-intercept

B) x-intercept

C) second degree term

D) rise over run

Find a slope-intercept form equation for the line.

8) Through the points (1, 5) and (-1, 8) 8) _____

A) $y = -\frac{3}{2}x - \frac{13}{2}$

B) $y = -3x + \frac{13}{2}$

C) $y = -\frac{3}{2}x + \frac{13}{2}$

D) $y = -\frac{3}{2}x + \frac{13}{4}$

9) Through (3, 5), with slope $-\frac{2}{5}$

9) _____

A) $y = -\frac{2}{5}x + \frac{6}{5}$

B) $y = \frac{2}{5}x + \frac{6}{5}$

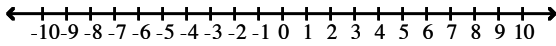
C) $y = -\frac{2}{5}x + \frac{31}{5}$

D) $y = \frac{2}{5}x - \frac{31}{5}$

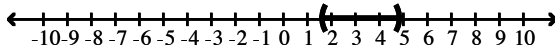
Solve the inequality and draw a number line graph of the solution.

10) $2 < 2x - 1 < 9$

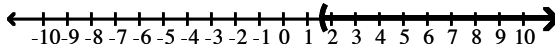
10) _____



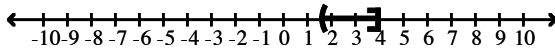
A)



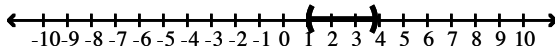
B)



C)

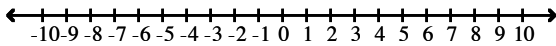


D)

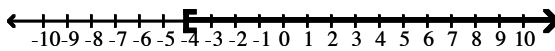


11) $4x - 7 \leq 8x + 9$

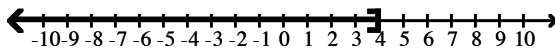
11) _____



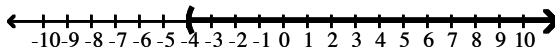
A)



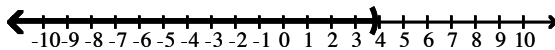
B)



C)



D)



Solve the inequality algebraically. Write the solution in interval notation.

12) $|9x - 2| \geq 1$

A) $(-\infty, -\frac{1}{3}] \cup [1, \infty)$

B) $[\frac{1}{9}, \frac{1}{3}]$

C) $(-\infty, \frac{1}{9}] \cup [\frac{1}{3}, \infty)$

D) $[\frac{1}{3}, \infty)$

12) _____

13) $|3 + 2x| - 5 > 1$

A) $(-\infty, -\frac{9}{2})$

B) $(-\infty, \frac{3}{2})$

C) $(-\infty, -\frac{9}{2}) \cup (\frac{3}{2}, \infty)$

D) $(-\frac{9}{2}, \frac{3}{2})$

13) _____

14) $|x + 5| \leq 7$

A) $(-12, 2)$

B) $[-12, 2)$

C) $[-12, 2]$

D) $(-12, 2]$

14) _____

Find the slope of the line through the pair of points.

15) $(8, 2)$ and $(8, 8)$

A) Undefined

B) 0

C) $\frac{5}{8}$

D) $-\frac{3}{8}$

15) _____

16) $(6, 4)$ and $(8, 3)$

A) $-\frac{1}{2}$

B) -2

C) $\frac{1}{2}$

D) $\frac{1}{2}$

16) _____

Solve the equation.

17) $\frac{x+6}{7} = \frac{x+7}{8}$

A) $x = \frac{1}{56}$

B) $x = 1$

C) $x = \frac{13}{56}$

D) $x = \frac{13}{15}$

17) _____

18) $10y = 7y + 10 + 2y$

A) $y = -10$

B) $y = -100$

C) $y = 10$

D) $y = 100$

18) _____

19) $\frac{1}{5}(15x - 25) = \frac{1}{3}(15x - 9)$

A) $x = \frac{1}{8}$

B) $x = 1$

C) $x = -1$

D) $x = -8$

19) _____

20) $\frac{6x-2}{3} + \frac{2x-6}{5} = -\frac{8}{5}$

A) $x = \frac{1}{9}$

B) $x = -\frac{8}{9}$

C) $x = \frac{11}{15}$

D) $x = -\frac{13}{9}$

20) _____

Solve the problem.

- 21) Assume that the sales of a certain appliance dealer are approximated by a linear function. Suppose that sales were \$6000 in 1982 and \$60,500 in 1987. Let $x = 0$ represent 1982. Find the equation giving yearly sales $S(x)$. 21) _____
- A) $S(x) = 10,900x + 6000$ B) $S(x) = 54,500x + 60,500$
C) $S(x) = 10,900x + 60,500$ D) $S(x) = 54,500x + 6000$

- 22) Suppose the sales of a particular brand of appliance satisfy the relationship $S(x) = 230x + 6000$, where $S(x)$ represents the number of sales in year x , with $x = 0$ corresponding to 1982. Find the number of sales in 1998. 22) _____
- A) 9450 B) 19,360 C) 19,130 D) 9680

Solve the inequality.

- 23) $\frac{7x + 8}{11} \geq -4$ 23) _____
- A) $x \leq -\frac{52}{7}$ B) $x \geq -\frac{44}{7}$ C) $x \geq -\frac{52}{7}$ D) $x \leq -\frac{36}{7}$

- 24) $\frac{1}{3}(x + 4) - 3x \leq 4(1 + x)$ 24) _____
- A) $x \geq \frac{1}{5}$ B) $x \geq -\frac{2}{5}$ C) $x \leq -\frac{2}{5}$ D) $x \leq \frac{1}{5}$

Find a point-slope form equation for the line through the point with the given slope.

- 25) $(2, 8), m = 3$ 25) _____
- A) $x - 2 = 3(y - 8)$ B) $y + 8 = 3(x - 2)$
C) $y + 8 = 3(x + 2)$ D) $y - 8 = 3(x - 2)$

Answer Key

Testname: HA2PC_CH1_A2_REVIEW

- 1) C
- 2) D
- 3) A
- 4) D
- 5) D
- 6) A
- 7) A
- 8) C
- 9) C
- 10) A
- 11) A
- 12) C
- 13) C
- 14) C
- 15) A
- 16) A
- 17) B
- 18) C
- 19) C
- 20) A
- 21) A
- 22) D
- 23) C
- 24) B
- 25) D

#1-25: See Multiple-Choice packet.

Free-Response Exam Directions: You must show a reasonable amount of work that leads to your answer. Where it is impossible to show work, explain the mental leaps that you made to draw your conclusion.

26. Write the equation of the line that has slope of 3 and contains the point $(-2, 2)$.
27. Write the equation of the line that has undefined slope and contains the point $(-1, 3)$.
28. Write the equation of the line that contains the points $(-10, -4)$ and $(-3, -3)$.
29. Write the equation of the line that contains the point $(4, -1)$ and is parallel to the line $2x + 3y = 21$.
30. Write the equation of the line that contains the point $(3, 0)$ and is perpendicular to the line $y = -2x - 5$.
31. Supplementary angles sum to 180° . If the measure of one supplementary angle is 20° more than triple the other angle measure, write an equation and find the measure of each angle.
32. A Pennsylvania map shows a scale indicating that 1 inch = 40 miles. The distance between Philadelphia and Pittsburgh is 7.5 inches. What is the actual distance between the two cities?
33. If the width of a rectangle is 10 meters and the perimeter is not to exceed 140 meters, write and solve an inequality to express the possible lengths of the rectangle.
- #34-35: Solve for x . Write solution in (A) inequality form (B) parenthetical form and (C) as a graph on a number line. (Yes, you MUST do ALL THREE.)
34. $4x - 3 < 29$ and $4 - 3x < -5$
35. $|(2/3)x + 2| > 6$

You will have 99 MINUTES (Periods 1 and 2) to complete this exam. The suggested pacing is 2 minutes max per multiple-choice problem and 5 minutes max per free-response problem.