NAME _____ DATE _____ PERIOD _____

Chapter 4 Test, Form 2A

SCORE _____

Write the letter for the correct answer in the blank at the right of each question.

1. What is the slope-intercept form of the equation of a line that passes through (1, –6) with a slope of 5?

   A $y = 5x + 1$ **B** $y = 5x + 11$ **C** $y = 5x – 6$ **D** $y = 5x – 11$

1._____

2. Which is an equation of the line that passes through (–1, –5) and (–3, –7)?

   F $y = –2x + 4$ **H** $y = x – 4$

   G $y = 2x + 4$ **J** $y = –x – 4$

2. _____

3. Which is an equation of the line that passes through (2, –5) and (6, 3)?

   A $y = \frac{1}{2}x – 6$ **C** $y = 2x + 12$

   B $y = \frac{1}{2}x$ **D** $y = 2x – 9$

3. _____

4. What is an equation of the line through (0, –3) with slope $\frac{2}{5}$?

   F $–5x + 2y = 15$ **H** $2x – 5y = 15$

   G $–5x – 2y = –15$ **J** $–2x + 5y = 15$

5. Which is an equation of the line with slope –3 and passes through (2, –1)?

   A $y = –3(x + 5)$ **B** $3x + y = 5$ **C** $–3x + y = 5$ **D** $y = 5x – 3$

4. _____

6. What is the equation of the line through (–2, –3) with a slope of 0?

   F $x = –2$ **G** $y = –3$ **H** $–2x – 3y = 0$ **J** $–3x + 2y = 0$

5. _____

7. Find the slope-intercept form of the equation of the line that passes through (–5, 3) and is parallel to $12x – 3y = 10$.

   A $y = –4x – 17$ **B** $y = 4x – 13$ **C** $y = –4x + 13$ **D** $y = 4x + 23$

6. _____

8. If line q has a slope of $–\frac{3}{8}$, what is the slope of any line perpendicular to q?

   F $–\frac{3}{8}$ **G** $\frac{3}{8}$ **H** $\frac{8}{3}$ **J** $–\frac{8}{3}$

7. _____

9. A line of fit might be defined as

   A a line that connects all the data points.

   B a line that might best estimate the data and be used for predicting values.

   C a vertical line halfway through the data.

   D a line that has a slope greater than 1.

8. _____

10. A scatter plot of data comparing the number of years since Holbrook High School introduced a math club and the number of students participating contains the ordered pairs (3, 19) and (8, 42). Which is the slope-intercept form of an equation for the line of fit containing those points?

   F $y = 4.6x + 5.2$ **G** $y = 3x + 1$

   H $y = 5.2x + 4.6$ **J** $y = 0.22x – 1.13$

9. _____

11. Use the equation from Question 10 to estimate the number of students who will be in the math club during the 15th year.

   A 53   **B** 61   **C** 65   **D** 74

10. _____

11. _____

Chapter 4 Test, Form 2A *(continued)*

For Questions 12-14, use the scatter plot shown.
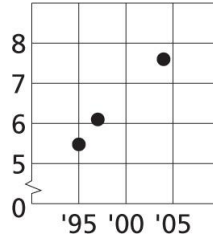
12. Which data are shown by the scatter plot?
 F (1995, 5.5), (1997, 6.1), (2004, 7.6)
 G (1995, 5.5), (2000, 6.1), (2004, 7.6)
 H (1995, 5.5), (2000, 6.6), (2005, 8.0)
 J (1995, 5.5), (1997, 6.6), (2005, 8.0)

12. _____

13. Which is true about the data?
 A The slope of the best-fit line would be negative.
 B There is a positive correlation.
 C There is no correlation.
 D There is a negative correlation.

13. _____

14. Based on the data in the scatter plot, what would you expect the y-value to be for $x = 2010$?
 F between 7 and 8   **H** between 5 and 7
 G higher than 8   **J** impossible to tell

14. _____

15. A study found a negative correlation between the number of hours people spend exercising and the number of hours they spend watching television each week. Determine if this situation illustrates correlation and/or causation.
 A correlation only   **B** causation only
 C no correlation and no causation   **D** correlation and causation

15. _____

For Questions 16 and 17, use the table shown.

Shots on Goal	22	25	28	29	33
Points Scored	5	7	7	9	8

16. Find the slope of the regression line.
 F −0.561   **G** 0.283   **H** 0.631   **J** 0.794

16. _____

17. Estimate how many points would be scored if 80 shots were taken on the goal using the regression line.
 A 18   **B** 19   **C** 22   **D** 24

17. _____

18. Find the inverse of $\{(4, -1), (3, -2), (6, 9), (8, 5)\}$.
 F $\{(8, 5), (6, 9), (3, -2), (4, -1)\}$ **H** $\{(-1, 4), (-2, 3), (9, 6), (5, 8)\}$
 G $\{(-4, 1), (-3, 2), (-6, -9), (-8, -5)\}$ **J** $\{(-1, -2), (9, 5), (4, 3), (6, 8)\}$

18. _____

19. If $f(x) = 3x - 4$, find $f^{-1}(x)$.
 A $f^{-1}(x) = 4x - 3$ **B** $f^{-1}(x) = \frac{x + 4}{3}$
 C $f^{-1}(x) = \frac{x - 4}{3}$ **D** $f^{-1}(x) = -4 - 3x$

19. _____

20. If $f(x) = 8(5x - 2)$, find $f^{-1}(x)$.
 F $f^{-1}(x) = \frac{5x + 2}{8}$ **G** $f^{-1}(x) = \frac{5x - 2}{8}$

 H $f^{-1}(x) = \frac{x - 16}{40}$ **J** $f^{-1}(x) = \frac{x + 16}{40}$

20. _____

Bonus What is the y-intercept of a line through (2, 7) and perpendicular to the graph of $y = -\frac{3}{2}x + 6$?

B: _____