3   Chapter 3 Test, Form 1
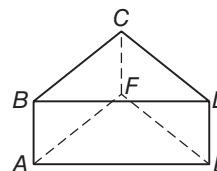
SCORE _____

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

For Questions 1–3, refer to the figure at the right.

1. Identify the plane parallel to plane *BCD*.
  A plane *ABE*   **C** plane *AEF*
  B plane *ABF*   **D** plane *DEF*

1. _____

2. Identify a segment parallel to $\overline{CD}$.
  F $\overline{AB}$ **G** $\overline{AE}$ **H** $\overline{BC}$ **J** $\overline{EF}$

2. _____

3. Which segment is skew to $\overline{DE}$?
  A $\overline{AB}$ **B** $\overline{BC}$ **C** $\overline{BD}$ **D** $\overline{CD}$

3. _____

For Questions 4–7, refer to the figure at the right.
Identify the special name for each angle pair.
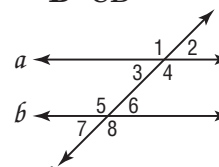
4. ∠1 and ∠8
  F alternate exterior   **H** consecutive interior
  G alternate interior   **J** corresponding

4. _____

5. ∠3 and ∠7
  A alternate exterior   **C** consecutive interior
  B alternate interior   **D** corresponding

5. _____

6. Given $a \parallel b$ and $m\angle 2 = 65$, find $m\angle 6$.
  F 25   **G** 65   **H** 115   **J** 140

6. _____

7. Given $a \parallel b$, $m\angle 3 = 5x + 10$, and $m\angle 5 = 3x + 10$, find the value of x.
  A 110   **B** 70   **C** 20   **D** 2.5

7. _____

For Questions 8–10, refer to the figure at the right.
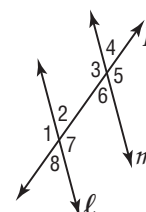
8. Which angle relationship justifies that $\ell \parallel m$?
  F ∠1 ≅ ∠7   **H** ∠4 ≅ ∠5
  G ∠3 ≅ ∠4   **J** ∠6 ≅ ∠8

8. _____

9. If $m\angle 2 = 6x + 8$ and $m\angle 6 = 8x - 6$, find the value of x so that $\ell \parallel m$.
  A −7   **B** 1   **C** 7   **D** 14

9. _____

10. Given $m\angle 6 + m\angle 7 = 180$, which postulate or theorem justifies that $\ell \parallel m$?
  F Consecutive Interior Angles Theorem
  G Corresponding Angles Postulate
  H Alternate Exterior Angles Theorem
  J Alternate Interior Angles Theorem

10. _____

For Questions 11–12, determine the slope of the line that contains the given points.

11. $A(0, 5)$, $B(5, 0)$

     A -1 **B** 0 **C** 1 **D** 5 **11.** _____

12. $F(-2, -4)$, $G(1, 2)$

     F -2 **G** $-\dfrac{1}{2}$ **H** $\dfrac{1}{2}$ **J** 2 **12.** _____

13. Given $A(1, 7)$, $B(8, 4)$, and $C(3, 10)$, which coordinate will make $\overline{AB}$ parallel to $\overline{CD}$?

     A $D(0, 17)$ **B** $D(6, 17)$ **C** $D(10, 7)$ **D** $D(10, 13)$ **13.** _____

14. Given $A(-1, 4)$, $B(2, -5)$, and $C(3, 4)$, which coordinate will make $\overline{AB}$ perpendicular to $\overline{CD}$?

     F $D(0, 5)$ **G** $D(2, 1)$ **H** $D(5, -2)$ **J** $D(6, 3)$ **14.** _____

15. Which is an equation of the line with slope 4 and a y-intercept -3?

     A $y = -3x + 4$ **B** $y = -3x + \dfrac{3}{4}$ **C** $y = 4x - 3$ **D** $y = 4x - \dfrac{3}{4}$ **15.** _____

16. Which is an equation of the line with slope 2 that passes through $(3, 1)$?

     F $y - 1 = 2(x - 3)$ **H** $y - 3 = 2(x - 1)$

     G $y + 1 = 2(x + 3)$ **J** $y - 3 = (x - 2)$ **16.** _____

17. Yoga lessons cost \$5 per lesson if Kylie enrolls in the health club for a fee of \$120 per year. Suppose Kylie joins the health club. Which equation represents the yearly cost C of ℓ yoga lessons?

     A $C = 5\ell$ **C** $C = 5\ell - 120$

     B $C = 5\ell + 120$ **D** $C = 5(\ell + 120)$ **17.** _____

18. What is the distance from P to n, shown in the figure?

     F -3

     G 1

     H 4
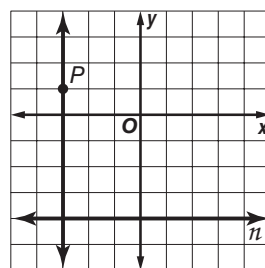
     J 5 **18.** _____

For Questions 19–20, find the distance between each pair of parallel lines.

19. $y = 4$ and $y = 6$

     A 2 **B** 4 **C** 6 **D** 10 **19.** _____

20. $y = x$ and $y = x + 2$

     F 1 **G** 1.5 **H** $\sqrt{2}$ **J** 2 **20.** _____

Bonus What is the slope of a line perpendicular to $y = -2$?   **B:** _____