

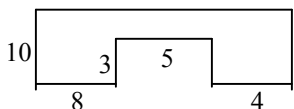
**GEOMETRY PRACTICE TEST 1**

Name \_\_\_\_\_

Date \_\_\_\_\_

**Directions:** Complete as many problems as you can in the 30 minutes allotted to you. No calculators! Figures are not drawn to scale. Do not assume any pair of line segments are congruent, parallel, or perpendicular unless specifically stated. You may assume all lines that appear straight are straight. Use 3.14 for  $\pi$  when necessary.

1. What is the perimeter of the following figure? Assume all consecutive sides to be perpendicular.

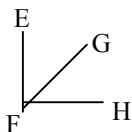


- (A) 27                      (B) 50                      (C) 54                      (D) 57                      (E) 60

2. If the area of a circle is  $36\pi$ , find the circumference.

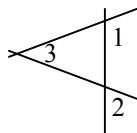
- (A)  $3\pi$                       (B)  $6\pi$                       (C)  $12\pi$                       (D)  $18\pi$                       (E)  $324\pi$

3. If  $\overline{EF} \perp \overline{FH}$ ,  $m\angle EFG = (17x)^\circ$ , and  $m\angle GFH = (13x)^\circ$ , find the value of  $x$ .



- (A) 2                      (B) 3                      (C) 4                      (D) 5                      (E) 6

4. If  $m\angle 1 = d^\circ$ ,  $m\angle 2 = 50^\circ$ , and  $m\angle 3 = 80^\circ$ , find  $d$ .



- (A) 110                      (B) 115                      (C) 120                      (D) 125                      (E) 130

5. Which fraction has the smallest value?

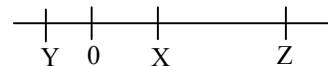
$$\frac{1}{3} \frac{2}{91^\circ}$$

- (A)  $\frac{m\angle 1 + 91^\circ}{2}$     (B)  $\frac{m\angle 3 + 91^\circ}{2}$     (C)  $\frac{m\angle 1 + m\angle 2 + m\angle 3 + 91^\circ}{4}$     (D)  $\frac{m\angle 1 + m\angle 3 + 91^\circ}{3}$     (E)  $\frac{m\angle 1 + m\angle 2 + m\angle 3}{3}$

6. If  $l_1 \parallel l_2$ ,  $l_2 \perp l_3$ , and each line lies in the same plane, then

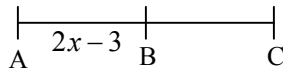
- (A)  $l_1 \parallel l_3$                       (B)  $l_1 \perp l_3$                       (C)  $l_2 \parallel l_3$                       (D)  $l_1$  and  $l_3$  are skew                      (E)  $l_1$  and  $l_2$  are skew

7. If X is the midpoint of  $\overline{YZ}$  and,  $Y = -10$ , and  $Z = 20$  find the length of XY.



- (A) -5                      (B) 5                      (C) 10                      (D) 12                      (E) 15

8. If  $AC = 7$ , express  $BC$  in terms of  $x$ .



- (A)  $4 - 2x$                       (B)  $6 - 2x$                       (C)  $7 - 2x$                       (D)  $8 - 2x$                       (E)  $10 - 2x$

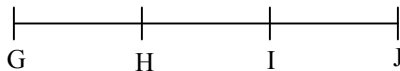
9. A circular pool has a diameter of 30 ft. and is surrounded by a 5 ft. wide deck. What is the total area of the pool and deck in square feet?

- (A)  $20\pi$                       (B)  $40\pi$                       (C)  $400\pi$                       (D)  $1225\pi$                       (E)  $1600\pi$

10. An angle is  $16^\circ$  more than its complement. Find the angle.

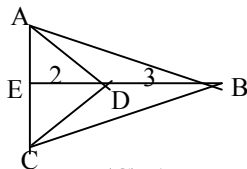
- (A)  $27^\circ$                       (B)  $37^\circ$                       (C)  $47^\circ$                       (D)  $53^\circ$                       (E)  $61^\circ$

11. What is another name for  $\overline{IH}$ ?



- (A)  $\overline{IG}$                       (B)  $\overline{HG}$                       (C)  $\overline{HI}$                       (D)  $\overline{IJ}$                       (E)  $\overline{JH}$

12. If  $AC = 20$ , find the area of quadrilateral  $ABCD$ . Assume  $\overline{AC} \perp \overline{EB}$ .



- (A) 10                      (B) 12                      (C) 15                      (D) 20                      (E) 30

13. For  $\triangle EFG$ ,  $m\angle G = 30^\circ$  and  $\angle F$  is an obtuse angle. Which of the following best describes  $\angle E$ ?

- (A)  $< 60^\circ$                       (B)  $> 60^\circ$                       (C)  $< 50^\circ$                       (D)  $> 50^\circ$                       (E)  $< 40^\circ$

14. What is the ratio of the diameter of a circle to its area?

- (A)  $\frac{1}{\pi}$                       (B)  $\frac{2}{\pi r}$                       (C)  $\frac{2}{\pi}$                       (D)  $\frac{1}{\pi r}$                       (E)  $\frac{2}{\pi r^2}$

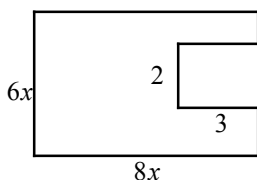
15. The intersection of two planes is a

- (A) line                      (B) point                      (C) midpoint                      (D) segment                      (E) ray

16. There is exactly one \_\_\_\_\_ through any two points.

- (A) plane                      (B) ray                      (C) point                      (D) line                      (E) angle

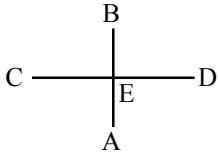
17. Find the area of the following figure. Assume all pairs of consecutive sides to be perpendicular.



- (A)  $28x + 6$                       (B)  $42x$                       (C)  $42x^2$                       (D)  $48x - 6$                       (E)  $48x^2 - 6$

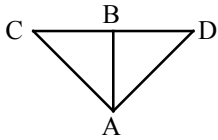
18. Two acute adjacent angles will \_\_\_\_\_ be supplementary.  
 (A) always (B) usually (C) sometimes (D) seldom (E) never

19. If  $CE = 12$ ,  $ED = 12$ , and  $\overline{BA} \perp \overline{CD}$ , which of the following, A through D, cannot be proven true?



- (A)  $\overline{BA}$  bisects  $\overline{CD}$  (B)  $AB - BE = AE$  (C)  $\overline{CD}$  is a  $\perp$  bisector (D)  $CE = \frac{1}{2}CD$  (E) all statements are true

20. What special name does  $\overline{AB}$  have if  $CB = DB$ ?



- (A) median (B) altitude (C)  $\perp$  bisector (D) angle bisector (E) no names apply

21. What is the ratio of 11 hours, 59 minutes, and 60 seconds to one week?

- (A)  $\frac{1}{28}$  (B)  $\frac{1}{14}$  (C)  $\frac{1}{12}$  (D)  $\frac{1}{7}$  (E)  $\frac{1}{2}$

22. If each edge of a cube is tripled, how many times greater will the total surface area become?

- (A) 3 (B) 6 (C) 9 (D) 27 (E) 54

23. If you double the length and the width of a rectangle, how many times larger will the area be?

- (A) 2 (B) 4 (C) 6 (D) 8 (E) 16

24. If each base of a trapezoid is doubled, how many times larger will the area become?

- (A) 2 (B) 4 (C) 8 (D) 12 (E) 16

25. If the radius of a cylinder is tripled and its height is doubled, how many times larger will the volume become?

- (A) 6 (B) 9 (C) 12 (D) 18 (E) 36

### GEOMETRY TEST 1 ANSWERS

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