**High School GSE Geometry**  
**Unit 2 GSE Geometry District Common Assessment**

|  |  |  |
| --- | --- | --- |
| 1. | Given: *AE* and *BD* bisect each other at *C*. Which could be used to prove **∆ABC ≅ ∆*EDC*?** | |
|  | A. | (SSS) If 3 sides of one triangle are congruent to 3 sides of another triangle, then the triangles are congruent. |
|  | B. | (SAS) If 2 sides and the angle between them in one triangle are congruent to 2 sides and the angle between them in another triangle, then the triangles are congruent |
|  | C. | (ASA) If 2 angles and the side between them of one triangle are congruent to 2 angles and the side between them of another triangle, then the triangles are congruent. |
|  | D. | (AAS) If 2 angles and a side not between them are congruent to 2 angles and a side not between them of another triangle, then the triangles are congruent. |
| 2. |  | |
|  | A. | 27 |
|  | B. | 18 |
|  | C. | 15 |
|  | D. | 8 |
| 3. | Which rule explains why these triangles are congruent? | |
|  | A. | SSS |
|  | B. | SAS |
|  | C. | AAS |
|  | D. | None of the above |
| 4. |  | |
|  | A. |  |
|  | B. |  |
|  | C. |  |
|  | D. |  |
| 5. | Triangle ABC is rotated 45˚ about a point C in a clockwise direction. What is the relationship between the triangle ABC and its image A'B'C'? | |
|  | A. | They are congruent. |
|  | B. | Each side of A'B'C' is 45 times as large as the sides of ABC. |
|  | C. | Each angle of A'B'C' is 45˚ larger than the angles of ABC. |
|  | D. | They have no relationship to each other. |
| 6. |  | |
|  | A. | 100 |
|  | B. | 20 |
|  | C. | 140 |
|  | D. | 40 |
| 7. |  | |
|  | A. | CPCTC |
|  | B. | SAS |
|  | C. | ASA |
|  | D. | SSS |
| 8. |  | |
|  | A. | SAS |
|  | B. | ASA |
|  | C. | SSS |
|  | D. | CPCTC |
| 9. |  | |
|  | A. | 25 |
|  | B. | 30 |
|  | C. | 60 |
|  | D. | 100 |
| 10. | Michele wanted to measure the height of her school’s flagpole. She placed a mirror on the ground 48 feet from the flagpole, then walked backwards until she was able to see the top of the pole in the mirror. Her eyes were 5 feet above the ground and she was 12 feet from the mirror. Using similar triangles, find the height of the flagpole to the nearest tenth of a foot. | |
|  | A. | 20 ft |
|  | B. | 38.4 ft |
|  | C. | 55 ft |
|  | D. | 25 ft |
| 11. | Use the Triangle Proportionality Theorem to find *x,* given that PQ || BC. | |
|  | A. | 12 |
|  | B. | 6 |
|  | C. | 20 |
|  | D. | 24 |
| 12. | Are the two triangles similar? How do you know? | |
|  | A. | yes, by SSS ~ |
|  | B. | yes, by SAS ~ |
|  | C. | no |
|  | D. | yes, by AA ~ |
| 13. |  | |
|  | A. | similar |
|  | B. | congruent |
|  | C. | obtuse |
|  | D. | equilateral |
| 14. |  | |
|  | A. |  |
|  | B. |  |
|  | C. |  |
|  | D. |  |
| 15. | Supply the missing reason for the given proof. | |
|  | A. | ASA; Substitution |
|  | B. | SAS; CPCTC |
|  | C. | AAS; CPCTC |
|  | D. | ASA; CPCTC |
| 16. | The dashed triangle is an image of the solid triangle. What is the scale factor of the image? | |
|  | A. | ¼ |
|  | B. | ½ |
|  | C. | ⅔ |
|  | D. | 2 |
| 17. | Explain why the triangles are similar. Then find the value of *x*. | |
|  | A. | SSS Postulate; 5⅓ |
|  | B. | AA Postulate; 13⅓ |
|  | C. | SAS Postulate; 13⅓ |
|  | D. | AA Postulate; 5⅓ |
| 18. | Find the values of *x* and *y*. The diagram is not to scale. | |
|  | A. | *x* = 77, *y* = 59 |
|  | B. | *x* = 77, *y* = 57 |
|  | C. | *x* = 57, *y* = 77 |
|  | D. | *x* = 41, *y* = 57 |
| 19. | Based on the information given, can you determine that the quadrilateral must be a parallelogram? Explain | |
|  | A. | No; you cannot determine that the quadrilateral is a parallelogram |
|  | B. | Yes; two opposite sides are both parallel and congruent. |
|  | C. | Yes; opposite sides are congruent. |
|  | D. | Yes; diagonals of a parallelogram bisect each other. |
| 20. | In the rhombus, *m∠1 = 6x, m∠2 = x + y, and m∠3 = 18z*. Find the value of each variable. The diagram is not to scale. | |
|  | A. | *x* = 15, *y* = 165, *z* = 10 |
|  | B. | *x* = 30, *y* = 75, *z* = 10 |
|  | C. | *x* = 15, *y* = 75, *z* = 5 |
|  | D. | *x* = 30, *y* = 165, *z* = 5 |