Unit 2 Bench Mark Review Geometry

G17.0 1. Find the slope of the line through the points A(3, -4) and B(-5, 8).

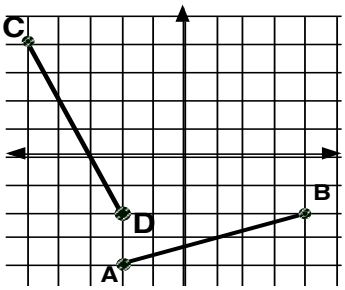
G17.0 2. Find the slope of the line through the points R(-2, 7) and B(4, -5).

G17.0 3. Using the graph to the right find the midpoint of $\overline{AB}$.

G17.0 4. Using the graph to the right find the midpoint of $\overline{CD}$.

G17.0 5. Using the graph to the right find the distance from A to B.

G17.0 6. Using the graph to the right find CD (distance).



G17.0 7. Write the equation of a line parallel to y = 4x - 5 and through (3, 1).

G17.0 8. Write the equation of a line parallel to $y = -\frac{1}{2}x + 7$ and through (- 4, -3).

G17.0 9. Write the equation of a line perpendicular to y = 4x - 5 and through (8, 1).

G17.0 10. Write the equation of a line perpendicular to $y = -\frac{1}{2}x + 7$ and through (-1, -3).

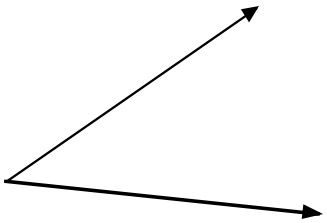
G17.0 11. If lines l_3 and l_4 are parallel what do we know about their slopes?

G17.0 12. If lines l_1 and l_2 are perpendicular what do we know about their slopes?

G1.0 13. Give the definition and an example of inductive reasoning.

G1.0 14. Give the definition and an example of deductive reasoning.

G16.0 15. Construct the angle bisector.



G16.0 16. Construct the perpendicular bisector.

G16.0 17. Construct a line parallel to L and thru point A.

A

L

G16.0 18. Construct a line perpendicular to L and thru point A.

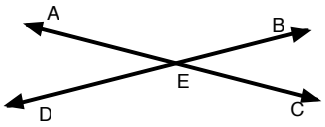
A

L

G1.0 19. If $\angle 3$ and $\angle 4$ are supplementary and $\angle 4$ and $\angle 5$ are supplementary, What can you conclude ?

G1.0 20. If $m\angle 1 = m\angle 2$ and $m\angle 2 = m\angle 3$, What can you conclude ?

Use the following diagram for questions 21 - 24.



G 1.0 21. If $m\angle AEB = 2x + 40$ and $m\angle BEC = 4x - 16$. Find x.

G 1.0 22. If $m\angle DEC = 5x - 30$ and $m\angle BEC = 3x + 10$. Find x.

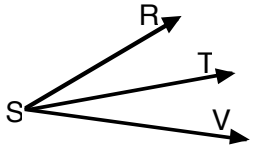
G 1.0 23. If $m\angle BEC = 5x - 30$ and $m\angle AED = 3x + 10$. Find x.

G 1.0 24. If $m\angle DEC = 3x + 10$ and $m\angle AEB = 4x - 30$. Find x.

G 1.0 25. Let Q be between P and R. If PQ = 5x - 1, QR = 2x + 3 and PR = 30 then use the segment addition postulate to solve for x.

G 1.0 26. Let Q be between P and R. If PQ = 3x + 20, QR = 2x + 12 and PR = 67 then use the segment addition postulate to solve for x.

Use the following diagram for questions 27 - 30.(not to scale)



G 1.0 27. If $m\angle RST = 3x - 12$, $m\angle TSV = 2x + 6$ and $m\angle RSV = 94$ then find $m\angle RST$.

G 1.0 28. If $m\angle RST = 4x + 3$, $m\angle TSV = x + 7$ and $m\angle RSV = 35$ then find $m\angle RST$.

G 1.0 29. In the figure $\overrightarrow{ST}$ bisects $\angle RSV$. If $m\angle RST = 3x - 12$, $m\angle TSV = 2x + 6$ then find x.

G 1.0 30. In the figure $\overrightarrow{ST}$ bisects $\angle RSV$. If $m\angle RST = 4x + 3$, $m\angle TSV = 2x + 12$ then find x.

G3.0 31. Give a counter example to "All athletes play basketball".

G3.0 32. Give a counter example to "Through any three points, there is exactly on line".

G17.0 33. Graph the circle that is represented by the equation: $(x-5)^2 + (y+2)^2 = 9$

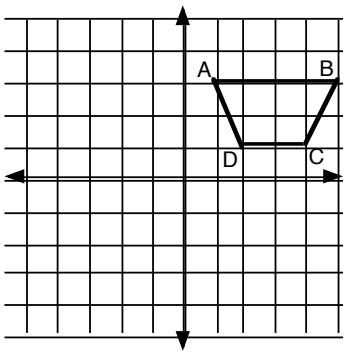
G17.0 34. Graph the circle that is represented by the equation: $(x-3)^2 + (y-7)^2 = 16$

G17.0 35. Give the equation of the circle with center (1,5) and radius 2.

G17.0 36. Give the equation of the circle with center (-4, 6) and radius 5.

[questions 37 - 42]

G22.0 37. Trapezoid ABCD is translated to trapezoid A'B'C'D' by the following rule: (x, y) $\longrightarrow$ (x + 1, y - 2). Give the new coordinates for A'B'C'D'.



G22.0 38. Trapezoid ABCD is translated to trapezoid A'B'C'D' by the following rule: (x, y) $\longrightarrow$ (x - 5, y + 3). Give the new coordinates for A'B'C'D'.

G22.0 39. Trapezoid ABCD is rotated $90°$ counter clockwise give the new coordinates for A'B'C'D'.

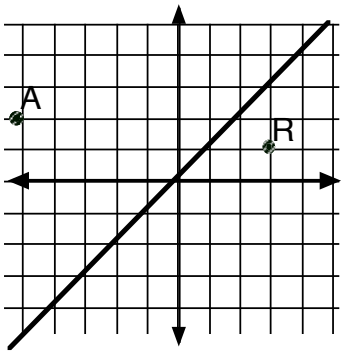
G22.0 40. Trapezoid ABCD is rotated $180°$ give the new coordinates for A'B'C'D'.

G22.0 41. Trapezoid ABCD is reflected over the y-axis give the new coordinates for A'B'C'D'.

G22.0 42. Trapezoid ABCD is reflected over the x-axis give the new coordinates for A'B'C'D'.

G22.0 43. Given Point A (-5, 2) find the new coordinates after it is reflected over the line y = x.

G22.0 44. Given Point R (3, 1) find the new coordinates after it is reflected over the line y = x.



G17.0 45. What is the equation for the midpoint of $\overline{RT}$?

G17.0 46. What is the equation for the midpoint of $\overline{OS}$?