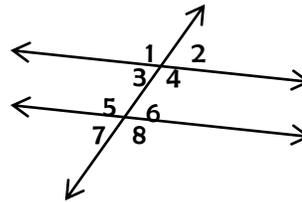


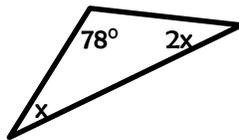
Summer Review and Practice for Rising 9th Graders (Math 8 Students)

- The second hand on a clock moves from 5 seconds to 20 seconds. What type of transformation has occurred?
a. dilation b. translation c. reflection d. rotation
- The point (3, 4) is reflected across the x-axis, then translated 3 units left. What is the new coordinate?
a. (0, -4) b. (-3, 7) c. (0, 4) d. (-7, 4)
- Point H, at coordinate (-1,4), is rotated 90° counterclockwise. What is the new coordinate of point H?
- Figure ABCD has coordinates A (-4, 4), B (3, 4), C (3, 1), and D (-4, 1). It is dilated using a scale factor of 3. Name the new coordinates of the figure.
- Name the scale factor for the dilation of $\triangle RST$ with coordinates of R (-4, -4), S (-4, 4), and T (8, 4) to $\triangle R'S'T'$ with coordinates of R' (-1, -1), S' (-1, 1), and T' (2, 1).

6. Given $m \parallel n$, find $m \angle 7$ if $m \angle 4$ is 83° .



7. Find the measure of x .



8. Simplify. $\sqrt[3]{729}$

9. Estimate to the nearest tenths place. $\sqrt{411}$

10. Simplify using all positive exponents. $6^{-7} a^{-3} c^2$

11. Simplify using all positive exponents. $\frac{6a^{-3}b^2c^4}{9a^{-2}b^{-4}c^{-5}}$

12. Write in standard form: 7.53×10^{-4}

13. Solve. Write your answer in scientific notation. $\frac{8.2 \times 10^2}{4.1 \times 10^5}$

14. Solve the equation. $\frac{x}{2} + 1 + \frac{3x}{4} = -9$

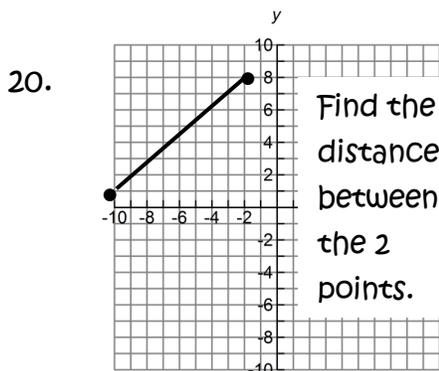
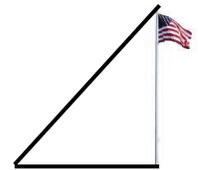
15. Solve the equation. $-10y + 18 = -3(5y - 7) + 5y$

16. Cami and Margaret are saving money. Cami starts with \$15 and saves \$8 each week. Maggie starts with \$5 and saves \$10 each week. When will they have the same amount of money? Write and solve an equation to mathematically prove your answer.

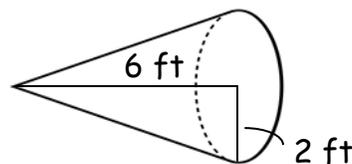
17. A rectangle is 12cm wide and 10 cm long. Find the length of its diagonal. Estimate to the nearest tenths place if needed.

18. Jennifer walks 9 miles north while Cindy walks 12 miles east, where they meet. What is the shortest distance between their starting points?

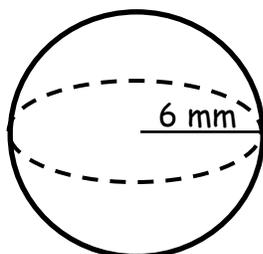
19. A 12 ft wire is attached to the top of a 10 ft flag pole. How far from the base of the pole is the wire attached? (Estimate to tenths if needed.)



21. Find the volume.



22. Find the volume.



23. A cone has a volume of 110 cubic centimeters. Find the volume of a cylinder with the same height and radius as the cone.

24. Malinda is buying CDs that cost \$12.99 each. There is a shipping charge of \$4.95.

Which function represents the total cost of the CDs?

a. $f(m) = m(12.99 + 4.95)$

c. $f(m) = 12.99m + 4.95$

b. $f(m) = 4.95m + 12.99$

d. $f(m) = (12.99 - 4.95)m$

25. Is this set of points a function? $\{(-2, 1), (-1, 0), (0, 2), (-1, 3)\}$

26. Give an example of a function using mapping.

27. State the domain and range for this set of points: $\{(5, 3), (-4, 1), (-2, 5), (3, -4)\}$.

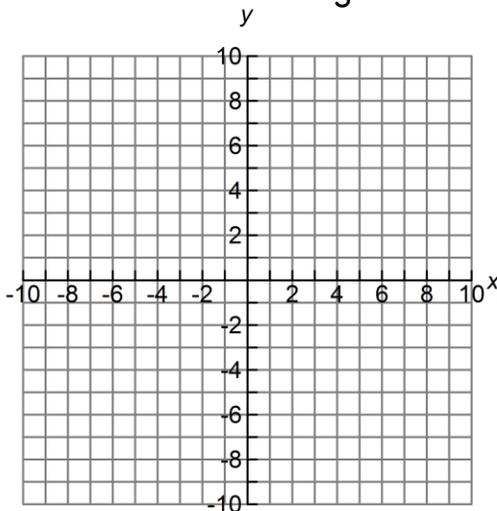
28. Define slope. What variable represents it?

29. Find the slope of the points: (3, 2) and (-3, 2).

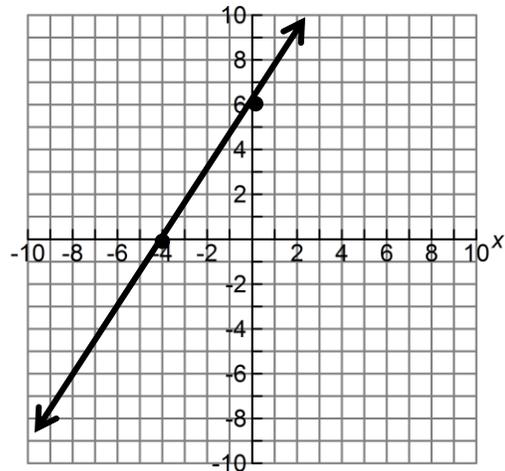
30. Name the slope and y-intercept: $y = 2$.

31. Write the equation in slope intercept form: $-8y + 4x = -24$.

32. Graph the line: $y = -\frac{2}{3}x + 2$



Write the equation of the line in slope-intercept form.



34. Write the equation of the line (in slope-intercept form) that passes through these two points. (-6, -4) (4, 6)

35. Write the equation of the line (in slope-intercept form) that passes through these two points. (3, 1) (3, -3)

36. Name the rate of change. Is it increasing or decreasing? $y = -\frac{1}{3}x + 4$

37. Which linear model has the greatest rate of change?

a. $y = -3x - 6$ b. $y = \frac{1}{2}x + 3$ c. $y = 2x - 2$

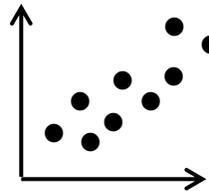
38. Which linear model has the lowest rate of change?

a. $y = -\frac{1}{3}x + 2$ b. $y = -4x + 3$ c. $y = \frac{5}{6}x + 1$

39. Write a linear model:

x	y
-2	-5
-1	-4
0	-3
1	-2

40. Classify the scatterplot as having a positive, negative, or no correlation AND as linear or non-linear association.



41. Identify this situation as having a positive, negative or no correlation: The number of songs downloaded to your i-pod compared to the amount of memory remaining.

42. Decide whether the ordered pair is a solution of the system of linear equations.

$(-3, 8)$; $4x + y = -4$ and $-x - y = 1$

43. Solve the system of equations. $3x - y = -2$ and $y = 2x + 3$

44. Solve the system of equations. $6x + 3y = 6$ and $2x + y = 2$

45. Solve the system of equations. $-2x + 3y = 14$ and $x - 4y = -12$

46. Fifty students went on the field trip to Disney. They went by car or by van. The total number of cars and vans was 12. Each car held 4 students and each van held 6 students. How many cars and vans were used?