

### Entering Algebra - Summer Work

Your work will be collected. Keep your work neat. When you do work on a piece of paper, always start with writing the problem. Do not use a calculator to do this work.

*Simplify using the Order of Operations. Show all steps.*

Need help? Watch a video. Click here - <https://youtu.be/dAgfnK528RA>.

1.  $3(5 + 2) - 8 + 2(3)$

2.  $10 + \frac{9}{3} \cdot 4 + 2$

3.  $3^3 + 5^2$

4.  $(7^2 - 5) \cdot 2$

5.  $3^2 + 7(2 + 3) - 1$

*Simplify showing all steps. (Rewrite any improper fraction answers as a mixed number).*

Need help? Watch a video. Click here - <https://youtu.be/5juto2ze8Lg>

6.  $\frac{1}{3} + \frac{2}{5}$

7.  $\frac{3}{5} - \frac{2}{6}$

8.  $\frac{2}{3} \cdot \frac{5}{6}$

9.  $\frac{3}{4} \div \frac{1}{2}$

10.  $\frac{2}{3} + \frac{1}{2} \cdot \frac{1}{4}$

*Simplify showing all steps.*

Need help? Watch a video.

Click here - <https://youtu.be/BgblvF90UE> for addition/subtraction.

Click here - [https://youtu.be/K\\_tPbVPfHgk](https://youtu.be/K_tPbVPfHgk) for multiplication/division.

11.  $12(-5)$

12.  $-90 \div (-9)$

13.  $-15 - (-6)$

14.  $22 + (-8)$

15.  $(-3)^2 + 8 - 10(-2)$

*Simplify showing all steps.*

Need help? Watch a video. Click here. <https://youtu.be/DKC74YKJpNY>

16.  $2x + 3 - x$

17.  $2y + 3y - 2 + 5$

18.  $3x + 2y - 5 + 3y - 2x$

19.  $3xy + 2x + 5y - x$

20.  $3(x + 1) - 2x$

*Evaluate the expression for the given values. Show all steps.*

Confused? Watch this video. [https://youtu.be/OF2GtlinL\\_s](https://youtu.be/OF2GtlinL_s)

21.  $x + y - z$  for  $x = -3$ ,  $y = 2$ , and  $z = -9$

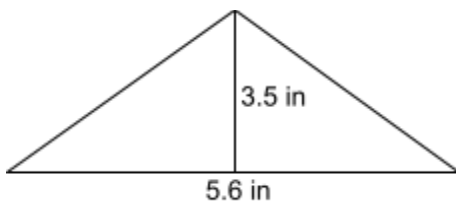
22.  $2x + 2y$  for  $x = -2$ ,  $y = 5$

23.  $xy - 3x$  for  $x = 4$ ,  $y = -8$

Find the area of the triangle showing all work.

Need help? Watch this video. <https://youtu.be/xCdxURXMdFY>

24.

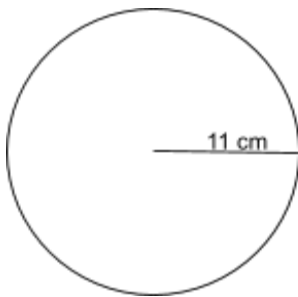


A = \_\_\_\_\_

Identify the diameter of the circle. Then find the circumference. Show all steps.

Need help? Watch this video. <https://youtu.be/O-cawByg2aA>

25.

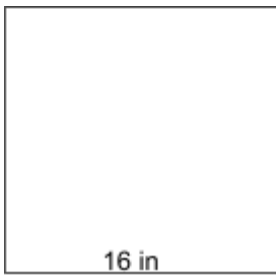


d = \_\_\_\_\_ C = \_\_\_\_\_

Find the perimeter and area of the square. Show all work.

Need help? Watch this video. <https://youtu.be/AAy1bsazcgM>

26.

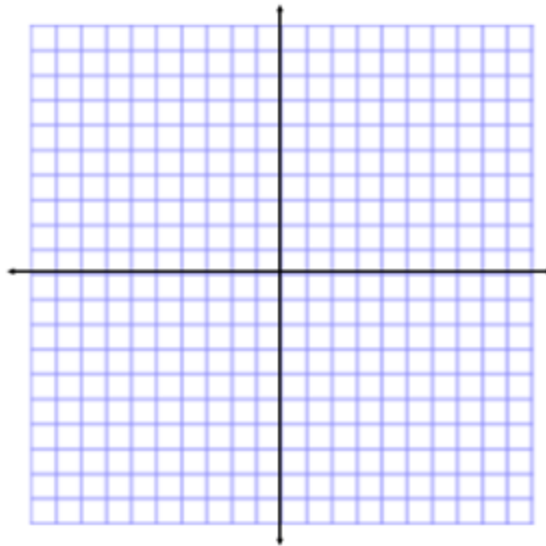


$$p = \underline{\hspace{2cm}} \quad A = \underline{\hspace{2cm}}$$

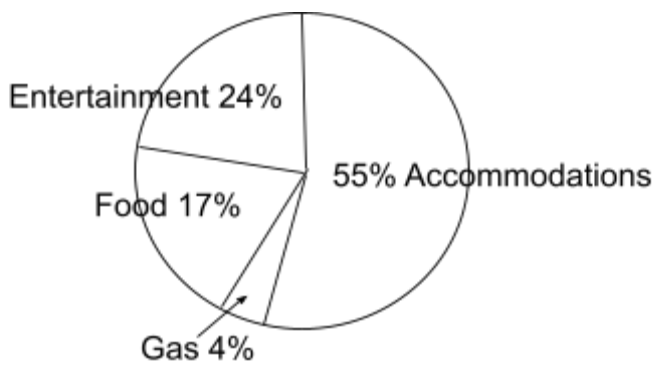
27. John is going to fertilize his lawn. His lawn is a rectangle that measures 240 feet by 82 feet. The amount of fertilizer required is 0.03 ounces per square foot.
- Find the area of the lawn.
  - How much fertilizer does John need to buy?

28. Plot the following points on the grid below. [Watch this video for help.](#)

(5,2)      (-4,1)      (0,0)      (-3,-5)      (1,-7)



The circle graph below shows how an average family spends money on vacation. Use this information to answer the questions below.



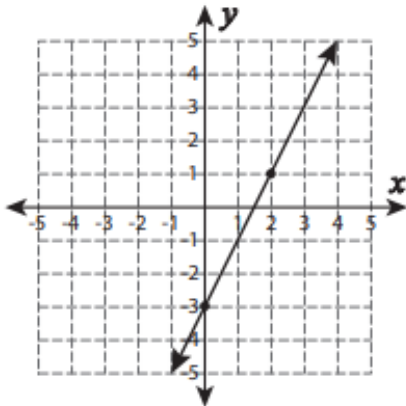
29. If a family spends an average of \$3000 on a local vacation, how much money was spent on gas?

30. What **fraction** of the cost is spent on food and entertainment?

Find the slope of the lines on the graphs.

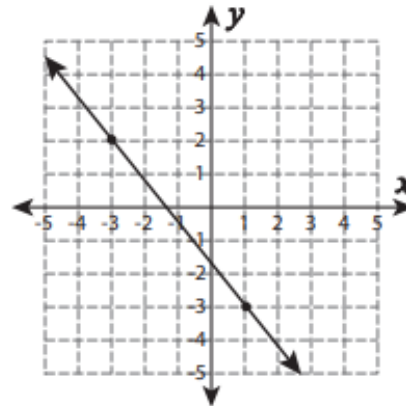
Find help here: <https://www.youtube.com/watch?v=AqOsf9R7JHA>

31.



Slope = \_\_\_\_\_

32.



Slope = \_\_\_\_\_

Find the slope between the two points.

Need help? Check here: <https://www.youtube.com/watch?v=8trWFtwyUMU>

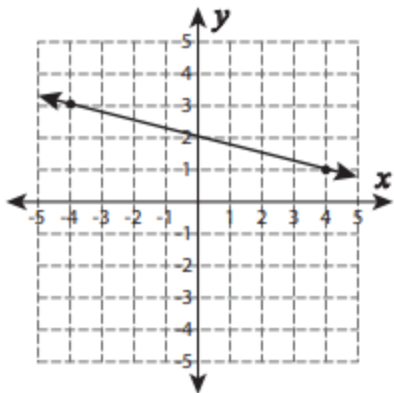
33.  $(-2, 10), (-2, -15)$

34.  $(-15, 10), (16, -7)$

Name the *y*-intercept on each graph below.

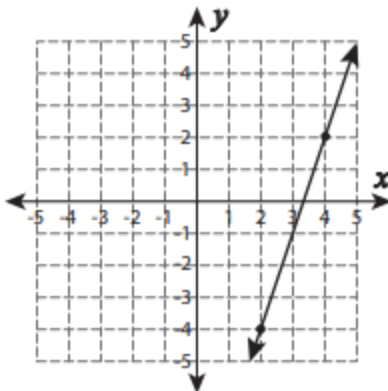
Need assistance? Watch this video: <https://www.youtube.com/watch?v=A65Ok-Q8C7s>

35.



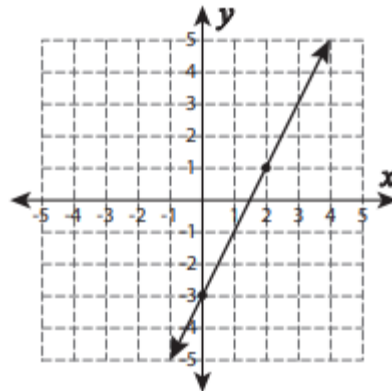
y-intercept: \_\_\_\_\_

36.



y - intercept: \_\_\_\_\_

37.



y - intercept: \_\_\_\_\_

Find the slope in each equation.

Help is here! [https://www.youtube.com/watch?v=Z65mz\\_\\_8DQ0](https://www.youtube.com/watch?v=Z65mz__8DQ0)

38.  $y = -\frac{2}{3}x - 1$

39.  $x = 1$

40.  $y = -5x - 1$

41.  $2x + 3y = 9$

Find the y-intercept in each equation.

42.  $y = \frac{1}{4}x + 1$

43.  $y = x$

44.  $y = -2x + 2$

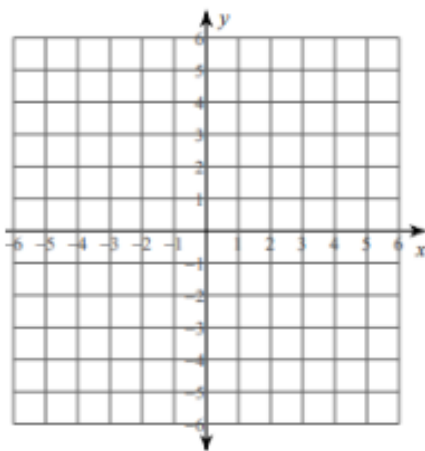
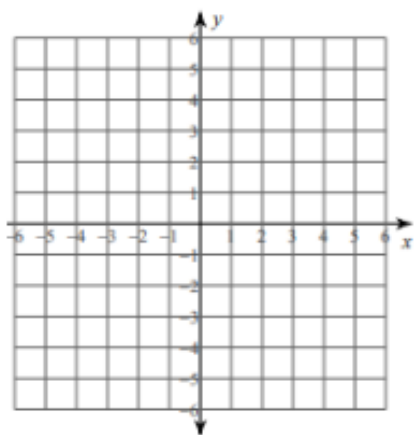
45.  $y = 4$

Graph the line for each equation.

Forgot how? Look here: <https://www.youtube.com/watch?v=vGNsmUKEQ9c>

46.  $y = \frac{3}{5}x - 4$

47.  $y = -3x + 1$



48.  $y = \frac{5}{3}x$

