

## Florida Geometry Lesson 2-1 - Practice and Problem-Solving Exercises Solutions

8. The pattern is to add  $-2, +3, -4, +5, \dots$ . The next two terms are  $3 - 6 = -3$  and  $-3 + 7 = 4$ .

17. The colors are rotating one space clockwise every term.



23.

Number of terms	Sum
1	$1 = 1 \cdot 1 = 1^2$
2	$1 + 3 = 4 = 2 \cdot 2 = 2^2$
3	$1 + 3 + 5 = 9 = 3 \cdot 3 = 3^2$
4	$1 + 3 + 5 + 7 = 16 = 4 \cdot 4 = 4^2$

The sum of the first 100 odd numbers is  $100^2 = 10,000$ .

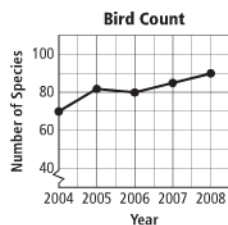
25. The sum of an even and an odd number is odd.

33. The pattern is add 2, add 4, add 6, ... So, the sixth term is  $21 + 10 = 31$  and the seventh term is  $31 + 12 = 43$ .

41. Graph the points to see that they all form the shape of a heart except for  $H$ .

44. His conjecture is probably false. Most people's growth slows by 18, and they stop growing somewhere between 18 and 22 years.

45a.



- 45b. Answers may vary. Sample:  
Using just the data from 2005 to 2008, the gain is 7 species in 3 years, or between 2 and 3 species per year. The year 2015 is 7 years after 2008, so the number of new species will be between 14 and 21 more than 90; an estimate is  $90 + 17$  or 107 species.

47. I  
Use the area formula to find the width of each rectangle.

$$A = lw$$

$$7200 = 120w$$

$$60 = w$$

The fencing for the entire coral includes 6 widths and 4 lengths. So, the entire fencing would be  $6(60) + 4(120) = 360 + 480 = 840$  ft.

48. No; since all four variables are positive, the two ordered pairs must be in Quadrant I, so the midpoint of the segment will also be in Quadrant I.

49.  $A = \pi r^2 = \pi \cdot 4^2 = 16\pi \text{ in.}^2$

51.  $12x + 8 = 32$

$$12x = 24$$

$$x = 2$$

52. True; answers may vary. Sample:  
If the two even numbers are  $2a$  and  $2b$ , the sum is  $2a + 2b = 2(a + b)$ , which is the form of an even number.

53. True; answers may vary. Sample:  
If three odd numbers are  $(2a + 1)$ ,  $(2b + 1)$ , and  $(2c + 1)$ , the sum is  $2(a + b + c) + 2 + 1 = 2(a + b + c + 1) + 1$ , which is an odd number.