

Geometry Review November 11 & 12

Name: _____

$$\text{Slope} = \frac{\Delta y}{\Delta x}$$

$$\text{Distance} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$\text{Midpoint} = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

**Find the slope, distance, and midpoint between the two given points.
Round answers to the tenths and simplify the slope, if possible.**

	Points	Slope	Distance	Midpoint
1.	(2, 4) (6, 11)			
2.	(-2, 3) (6, 10)			
3.	(2, 7) (7, 19)			
4.	(1, 4) (12, 1)			
5.	(-4, 4) (-6, -1)			
6.	(-8, -2) (6, 11)			
7.	(-4, 8) (4, -2)			
8.	(0, -8) (-6, 8)			

- _____ 9. Point A is at (3, 7) and B is at (7, 1). If B is the midpoint of \overline{AC} , what are the coordinates of C?
- _____ 10. Point A is at (-4, 8) and B is at (-2, 12). If B is the midpoint of \overline{AC} , what are the coordinates of C?
- _____ 11. Point X is at (2, 12) and D is at (8, 10). If D is the midpoint of \overline{XP} , what are the coordinates of P?
- _____ 12. Point A is at (6, 1) and T is at (8, 10). If X is the midpoint of \overline{AT} , what are the coordinates of X?
- _____ 13. Point A is at (2, 12) and B is at (18, 10). If C is the midpoint of \overline{AB} , what are the coordinates of C?

Figure 1

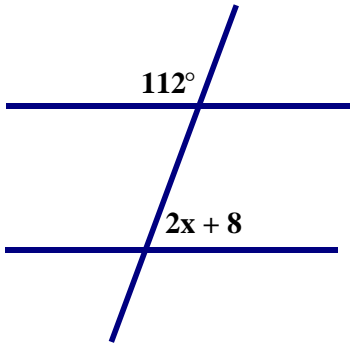


Figure 2

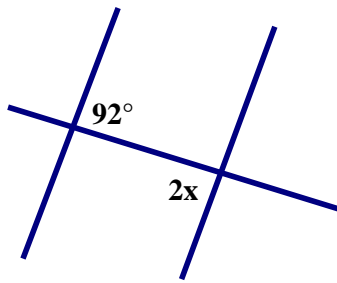


Figure 3

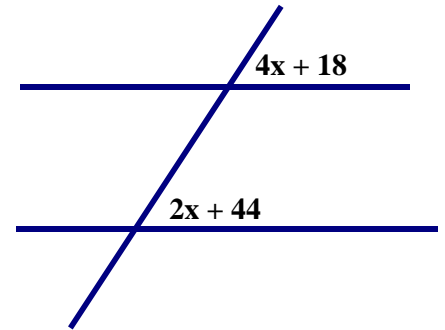


Figure 4

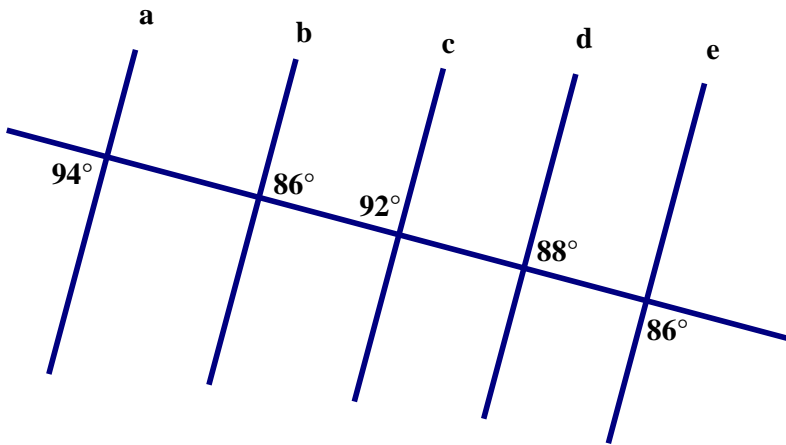
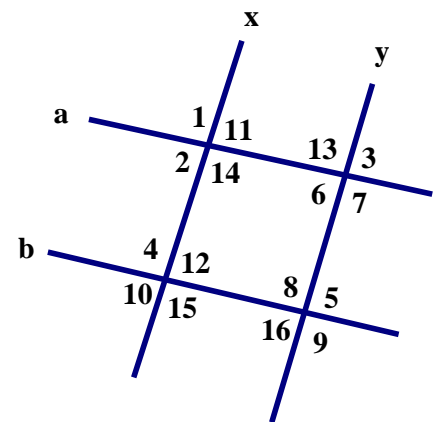


Figure 5



_____ 14. What must x be in Figure 1 above to make the two lines parallel?

_____ 15. What must x be in Figure 2 above to make the two lines parallel?

_____ 16. What must x be in Figure 3 above to make the two lines parallel?

17. Circle all statements below that are true about the lines in Figure 4.

$a \parallel b$ $a \parallel c$ $a \parallel d$ $a \parallel e$ $b \parallel c$ $b \parallel d$ $b \parallel e$ $c \parallel d$ $c \parallel e$ $d \parallel e$

18. Circle all statements below that would prove that $x \parallel y$ in figure 5.

$\angle 12 = \angle 9$ $\angle 14 = \angle 8$ $\angle 2 = \angle 6$ $\angle 1 = \angle 7$ $\angle 15 = \angle 9$ $\angle 4 = \angle 5$

$\angle 12$ is supplementary to $\angle 8$ $\angle 12$ is supplementary to $\angle 14$ $\angle 11$ is supplementary to $\angle 13$

19. Circle all statements below that would prove that $a \parallel b$ in figure 5.

$\angle 1 = \angle 4$ $\angle 14 = \angle 4$ $\angle 3 = \angle 6$ $\angle 1 = \angle 6$ $\angle 13 = \angle 4$ $\angle 16 = \angle 6$

$\angle 2$ is supplementary to $\angle 4$ $\angle 15$ is supplementary to $\angle 16$ $\angle 5$ is supplementary to $\angle 7$

Figure 6

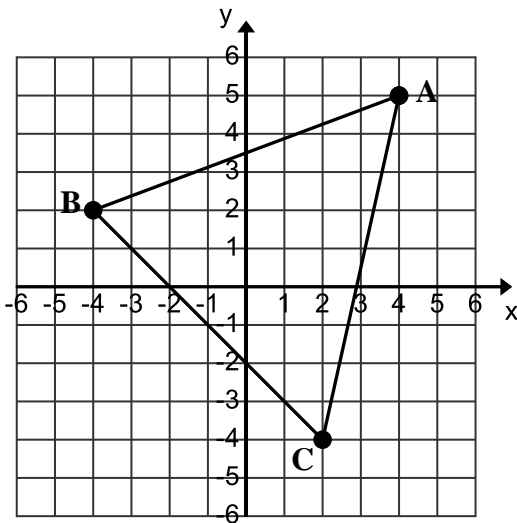
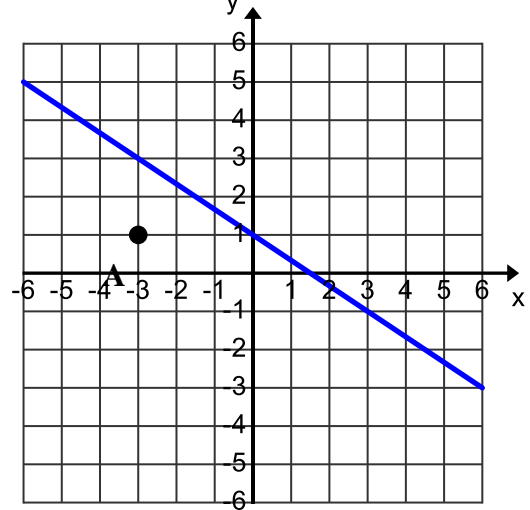


Figure 7



Calculate the following for Figure 6 above. Simplify all fractions and round distances to nearest tenth.

		Slope	Distance	Midpoint
20.	\overline{AB}			
21.	\overline{AC}			
22.	\overline{BC}			

_____ 23. Name the two other integral points on Figure 7 that go through point A and form a line that is perpendicular to the line.

_____ 24. \overline{AB} contains the points A (2, 5) and B (4, 10).
Which are the coordinates of a line that is parallel to \overline{AB} ?
A. (3, 4) and (1, 9) B. (4, 4) and (-1, 6)
C. (7, 1) and (2, -1) D. (1, 1) and (3, 6)

_____ 25. \overline{CX} contains the points C (4, 4) and X (-1, 6).
Which are the coordinates of a line that is perpendicular to \overline{CX} ?
A. (3, 4) and (1, -1) B. (3, 4) and (1, 9)
C. (7, 1) and (2, -1) D. (0, 3) and (4, 10)

_____ 26. The sides of a square measure 12 cm. What is the length of the diagonal?
A. $6\sqrt{2}$ B. $24\sqrt{3}$ C. $12\sqrt{2}$ D. $12\sqrt{3}$

_____ 27. Which set of side lengths would be a right triangle?
A. 11, 19, 22 B. 8, 12, 6 C. 20, 15, 11 D. 15, 17, 8

_____ 28. If A = (-4, 3) and B = (9, 10), what is AB? Round answer to the nearest tenth.

- _____ 29. On \overline{AC} , B is the midpoint with $AB = 5n - 4$ and $BC = 3n + 10$.
What is the numerical length of AB?
- _____ 30. If $\angle A$ and $\angle B$ are a linear pair with $\angle A = n + 40$
and $\angle B = 9n + 20$, what is the measurement of $\angle B$?
- _____ 31. If X is the midpoint of \overline{AB} and $AB = 8n + 6$, what is XB?
- _____ 32. If you drive 33 miles due East and then drive 55 miles due North,
how far from the starting point are you? Round answer to the nearest tenth.
- _____ 33. \overrightarrow{BX} bisects $\angle ABC$. If $\angle ABX = 8n + 10$, what is $\angle ABC$?
- _____ 34. Let N be the midpoint of \overline{AD} with $AD = 8n - 10$ and $AN = 3n + 15$. What is n ? (Tricky)
- _____ 35. If $\angle 1$ and $\angle 2$ are vertical angles with $\angle 1 = n + 40$
and $\angle 2 = 3n + 20$, what is the measurement of $\angle 2$?
- _____ 36. If $\angle 1$ and $\angle 2$ are complementary angles with $\angle 1 = n + 6$
and $\angle 2 = 8n - 6$, what is the measurement of $\angle 1$?
- _____ 37. Point A is at (2, 6) and B is at (4, 1). If B is the midpoint of \overline{AC} , what are the coordinates of C?
- _____ 38. "If you don't like cold weather, then you will love Florida" is represented by $p \rightarrow q$.
What is the symbolic representation of "If you don't love Florida, you will like cold weather"?
- _____ 39. "If you like dogs, you like cats" is represented by $p \rightarrow q$. What would be
the symbolic representation of "if you like cats, you don't like dogs"?
- _____ 40. Let p represent $\sqrt{11} = z$, and let q represent z is a rational number. What is a symbolic
representation of the statement: "If $\sqrt{11} = z$, then z is not a rational number"?
- _____ 41. "If you have a laptop, then you have a computer" is represented by $p \rightarrow q$. What is the symbolic
representation of "If you have a computer, then you don't have a laptop"?
- _____ 42. What is the contrapositive of $\sim q \rightarrow p$?
- _____ 43. What is the inverse of $p \rightarrow \sim q$?
44. If $ab = c$, then $a = \frac{c}{b}$. Give the converse, inverse and contrapositive to this statement.

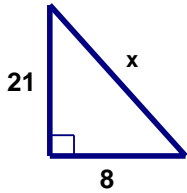
Converse: _____

Inverse: _____

Contrapositive: _____

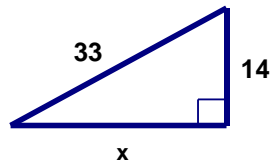
Find the value for x in the figures below. Round answers to the nearest tenth.

45.



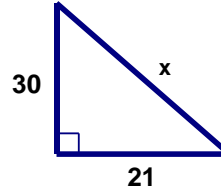
$x =$ _____

46.



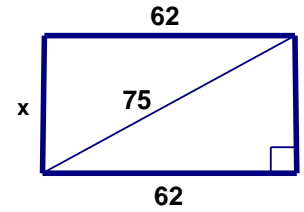
$x =$ _____

47.



$x =$ _____

48.



$x =$ _____

- _____ 49. Rounded to the nearest whole number, what is the circumference of a circle with a radius of 20 cm?
- _____ 50. Rounded to the nearest whole number, what is the area of a circle with a diameter of 12 cm?
- _____ 51. Rounded to the nearest whole number, what is the area of a circle with a circumference of 44 cm? Tricky!
- _____ 52. A right triangle has a hypotenuse of 53 cm and one leg that is 45 cm. What is the total perimeter of this right triangle?
- _____ 53. A dog is tied to pole with a rope that is 25 feet long. How much area does the dog have to run around in?

Figure 8

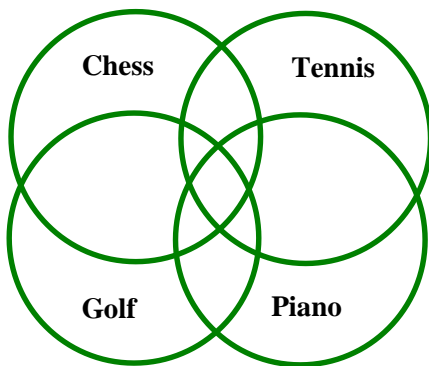


Figure 9

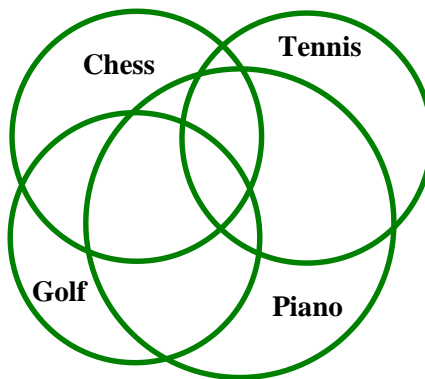
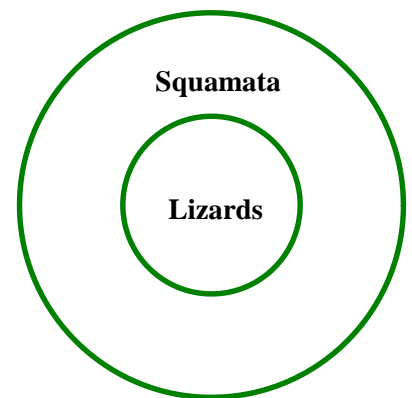
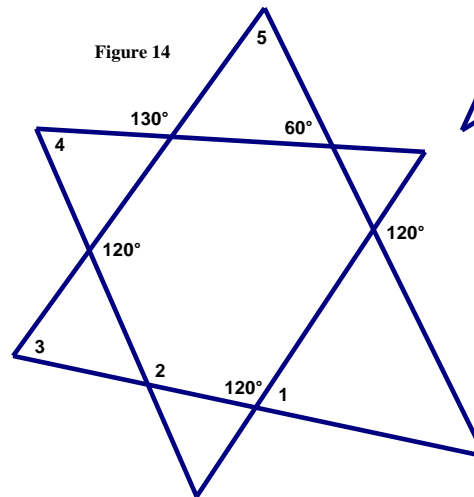
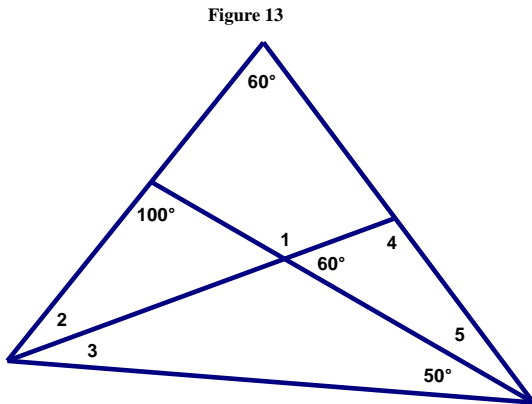
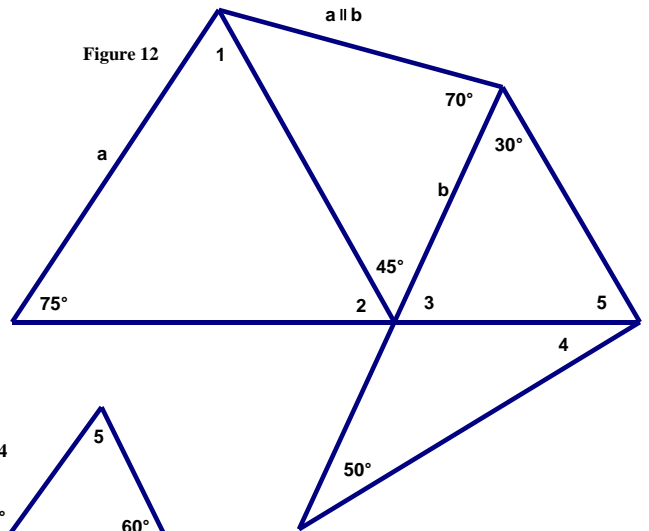
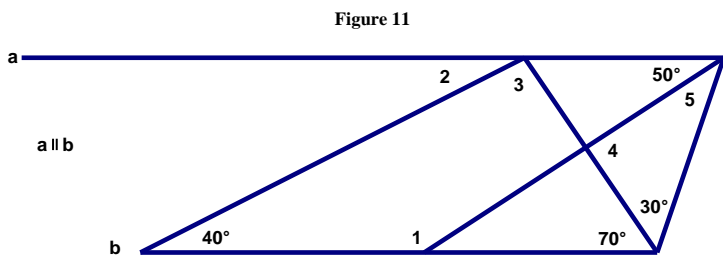


Figure 10



54. In figure 8 above, darken in the area that represents the kids who play piano and golf, but nothing else.
55. In figure 9 above, darken in the area that represents the kids who play chess and piano, but nothing else.
- _____ 56. Which of the following statements represents what is being said in Figure 10 above?
- A. All squamata are lizards. C. Some squamata are lizards.
- B. All lizards are squamata. D. Some lizards are squamata.



57. In figure 11 above, find the missing angles.

$\angle 1 = \underline{\hspace{1cm}}$ $\angle 2 = \underline{\hspace{1cm}}$ $\angle 3 = \underline{\hspace{1cm}}$ $\angle 4 = \underline{\hspace{1cm}}$ $\angle 5 = \underline{\hspace{1cm}}$

58. In figure 12 above, find the missing angles.

$\angle 1 = \underline{\hspace{1cm}}$ $\angle 2 = \underline{\hspace{1cm}}$ $\angle 3 = \underline{\hspace{1cm}}$ $\angle 4 = \underline{\hspace{1cm}}$ $\angle 5 = \underline{\hspace{1cm}}$

59. In figure 13 above, find the missing angles.

$\angle 1 = \underline{\hspace{1cm}}$ $\angle 2 = \underline{\hspace{1cm}}$ $\angle 3 = \underline{\hspace{1cm}}$ $\angle 4 = \underline{\hspace{1cm}}$ $\angle 5 = \underline{\hspace{1cm}}$

60. In figure 14 above, find the missing angles.

$\angle 1 = \underline{\hspace{1cm}}$ $\angle 2 = \underline{\hspace{1cm}}$ $\angle 3 = \underline{\hspace{1cm}}$ $\angle 4 = \underline{\hspace{1cm}}$ $\angle 5 = \underline{\hspace{1cm}}$