PSAT

16

If x is not equal to zero, what is the value of $\frac{4(3x)^2}{(2x)^2}$?

$\frac{4 \cdot 3^2 x^2}{2^2 x^2}$

9

8

Year	0	1	2	3	4
Salary	38,000	39,140	40,314	41,524	42,769

1.03 1.03

The table above shows the yearly salary, in dollars, of an employee at a company. Which of the following best describes the type of model that fits the data in the table?

A) Linear, increasing by approximately $1,140 per year

B) Linear, increasing by approximately $1,245 per year

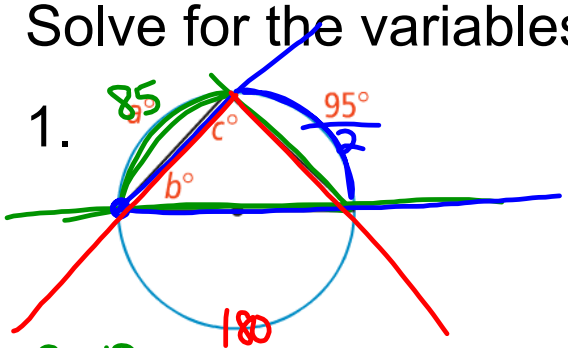
C) Exponential, increasing by approximately 3% each year

D) Exponential, increasing by approximately 9% each year

Warm Up:

Solve for the variables.

1.

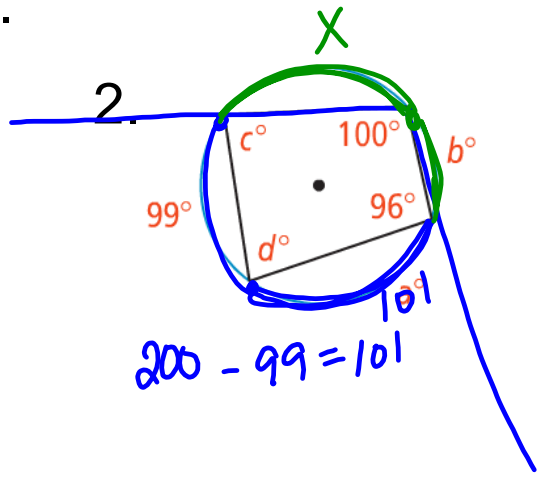


a = 180 − 95 = 85

b = 47.5

c = 90

2.



200 − 99 = 101

Learning Goal: Today I will learnhow to find angle measures in a circle.

Success Criteria: I am able to choose the correct formula and solve for angle measures inside and outside the circle.

12-4 Angle Measures and ~~Segment Lengths~~

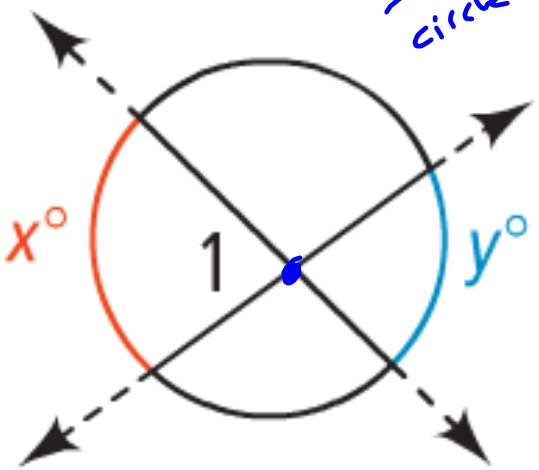
*Theorem 12-13

Secants that intersect inside the circle:

Vertex inside circle

angle arcs

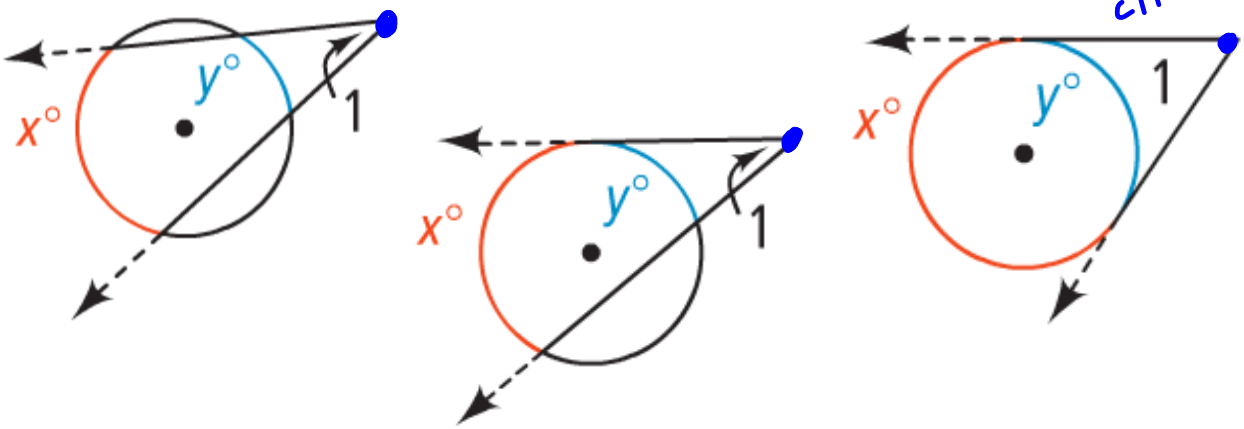
$$m\angle 1 = \frac{1}{2}(x + y)$$



*Theorem 12-14

vertex outside circle

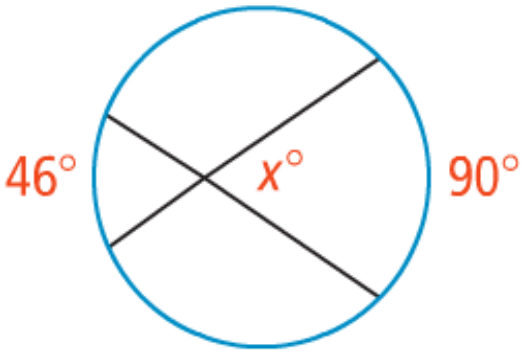
Secants that intersect outside the circle:



$$m\angle 1 = \frac{1}{2}(x - y)$$

Angle Measures

What is the value of each variable?



$m\angle 1 = \frac{1}{2}(x+y)$

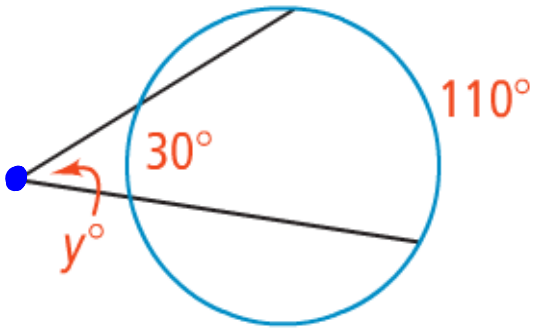
$x = \frac{1}{2}(46+90)$

$x = \frac{1}{2}(136)$

$x = 68$

Angle Measures

What is the value of each variable?



$m\angle 1 = \frac{1}{2}(x - y)$

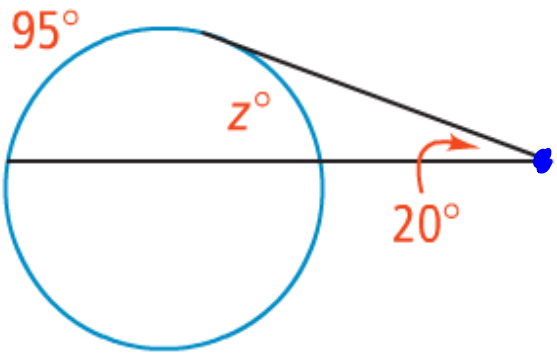
$y = \frac{1}{2}(110 - 30)$

$y = \frac{1}{2}(80)$

$y = 40$

Angle Measures

What is the value of each variable?



$m\angle 1 = \frac{1}{2}(x - y)$

$2 \cdot 20 = \frac{1}{2}(95 - z)$

$40 = 95 - z$

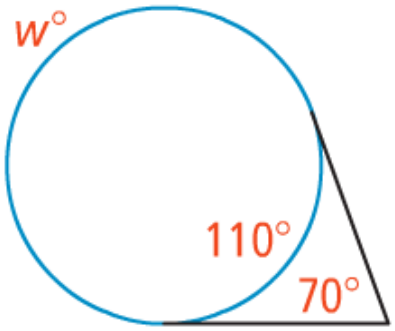
$-95 \quad -95$

$-55 = -z$

$z = 55$

Angle Measures

What is the value of each variable?



$360 - 110 = 250$

$m\angle 1 = \frac{1}{2}(x - y)$

$2 \cdot 70 = \frac{1}{2}(w - 110)$

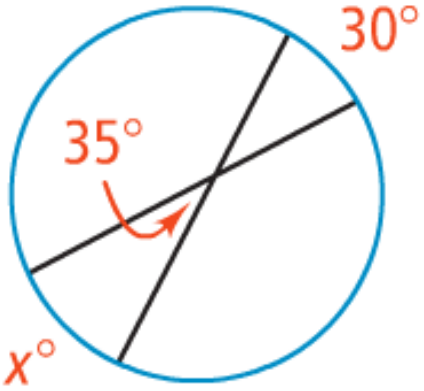
$140 = w - 110$

$+110 \quad +110$

$250 = w$

Angle Measures

What is the value of each variable?



you try!
x = 40

Closure: Today I learned how to solve for angle measures inside and outside a circle.

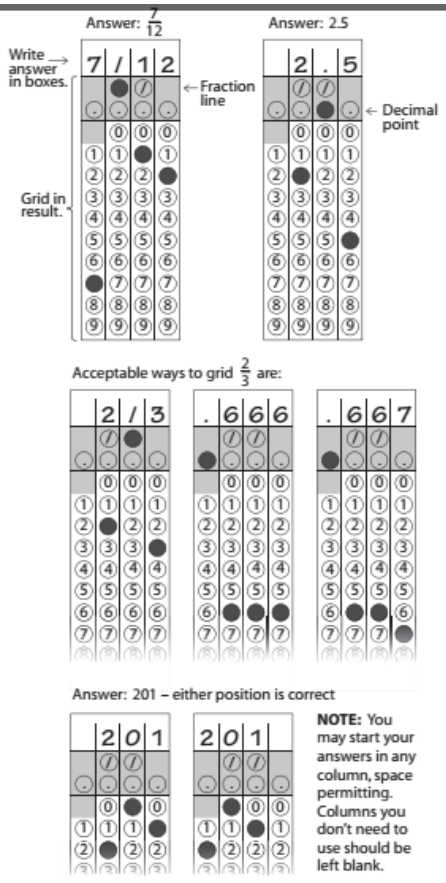
PSAT

- bring a calculator you know how to use
- no electronics during testing. Includes smart watches.
- bring a snack for the breaks. No water or food near your test.
- arrive on time. No late admission once test has started.
- try all questions. Stuck? Move on and go back to it.
- work backwards when possible.
- eliminate answers and guess. No penalty for wrong answers.
- work the entire time

Student-Produced Response Math Questions

For some questions in the Math Test, you will be asked to solve the problem and enter your answer in the grid, as described below, on the answer sheet.

1. Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
2. Mark no more than one circle in any column.
3. No question has a negative answer.
4. Some problems may have more than one correct answer. In such cases, grid only one answer.
5. **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If  is entered into the grid, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)
6. **Decimal answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.



Practice with the values below. The last two can be used for values you create.

Complete for 6.42

Complete for two ways to express 80%

Complete for two ways to express $2\frac{3}{4}$

Practice with your own values