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$$x^2 + x - 12 = 0$$

If a is a solution of the equation above and $a > 0$,
what is the value of a ?

$$(x+4)(x-3) = 0 \quad \underline{\underline{a=3}}$$

$$x = -4, \quad \textcircled{3}$$

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The sum of $-2x^2 + x + 31$ and $3x^2 + 7x - 8$ can be
written in the form $ax^2 + bx + c$, where a , b , and c
are constants. What is the value of $a + b + c$?

$$\begin{array}{r} -2x^2 + x + 31 \\ + (3x^2 + 7x - 8) \\ \hline 1x^2 + 8x + 23 \end{array} \quad a+b+c = \boxed{32}$$

$$a=1 \quad b=8 \quad c=23$$

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$$-x + y = -3.5$$

$$x + 3y = 9.5$$

If (x, y) satisfies the system of equations above, what is the value of y ?

$$4y = 6$$

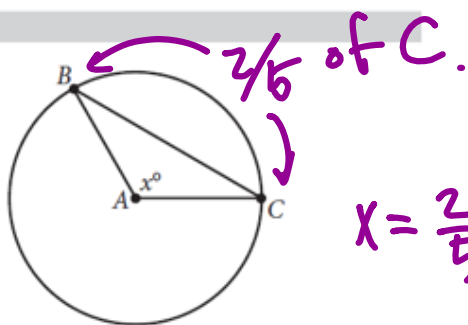
$$y = \frac{6}{4} = \frac{3}{2}$$

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A start-up company opened with 8 employees. The company's growth plan assumes that 2 new employees will be hired each quarter (every 3 months) for the first 5 years. If an equation is written in the form $y = ax + b$ to represent the number of employees, y , employed by the company x quarters after the company opened, what is the value of b ?

fixed value
(initial)

$$b = 8$$



$$x = \frac{2}{5}(360) = \frac{720}{5} \\ = 144$$

Note: Figure not drawn to scale.

In the circle above, point A is the center and the length of arc \widehat{BC} is $\frac{2}{5}$ of the circumference of the circle. What is the value of x ?