Tri Le
MATH 1314
College Algebra 10/31/18
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Happy Halloween!

$$\frac{7x+3}{5x+9} = \frac{1}{3} \Rightarrow 3(7x+3) = (5x+9)$$

$$\Rightarrow 21x + 9 = 5x + 9$$

$$\Rightarrow 21x = 0$$

$$\Rightarrow x = 0$$

The points (3,1) and (-1,-5) are the endpoints of a circle's diameter. The circle's equation is...

Midpoint: $\left(\frac{3-(-1)}{2}, \frac{1-(-5)}{2}\right) = \left(\frac{3+1}{2}, \frac{1+5}{2}\right) = (2,3)$

$$d = \sqrt{(3-(-1))^2 + (-1-(-5))^2} = \sqrt{4^2+4^2} = \sqrt{32}$$

Word Problems

I. Percentages

What is 30% of 45?

$$\frac{\text{is}}{\text{of}} = \frac{\%}{100} \Rightarrow \frac{x}{45} = \frac{30}{100}$$

Cross-multiply:

$$\Rightarrow 100x = 1350$$

$$\Rightarrow x = 13.5$$