

Show all reasoning/all work, THE REASONING is more important than the answer.

1. Solve for  $x$  showing all work:

$$2(x + 1) = 3(x - 1)$$
  
  

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2. Solve for  $x$  showing all work:

$$2(x + 1) = 3(5x + 1)$$
  
  

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3. Solve for  $x$  showing all work:

$$18x^4 + 3x^3 - 3x^2 = 0$$
  
  

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4. Solve for  $x$  showing all work:

$$x^3 = -1$$
  
  

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5. Solve for  $x$  showing all work:

$$x^2 + 3x - 10 = 0$$
  
  

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6. Prove [MAT]

$$\frac{a}{b} \cdot \frac{c}{k} = \frac{ac}{bk}$$

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7. Explain why the circumference of a circle is given by the formula  $C = 2\pi r$