

Maths Questions - worked

1.  $\sqrt{25x^2 - 100x + 100} = 5x - 10$   
 $25x^2 - 100x + 100 = (5x - 10)^2$   
 $25x^2 - 100x + 100 = 25x^2 - 100x + 100$   
 $0 = 0$   
25x^2 - 100x + 100  
25x^2 - 100x + 100  
0 = 0

2.  $\sqrt{12x^2 - 18x + 9} = 2x - 3$   
 $12x^2 - 18x + 9 = (2x - 3)^2$   
 $12x^2 - 18x + 9 = 4x^2 - 12x + 9$   
 $8x^2 - 6x = 0$   
 $2x(4x - 3) = 0$   
 $x = 0$  or  $x = \frac{3}{4}$   
2x(4x - 3) = 0  
2x(4x - 3) = 0  
2x(4x - 3) = 0

3.  $\sqrt{4x^2 - 12x + 9} = 2x - 3$   
 $4x^2 - 12x + 9 = (2x - 3)^2$   
 $4x^2 - 12x + 9 = 4x^2 - 12x + 9$   
 $0 = 0$   
4x^2 - 12x + 9  
4x^2 - 12x + 9  
0 = 0

Check:  
 $2x(4x - 3) = 0$   
 $2x(4x - 3) = 0$

Key **(D)**  
 Key

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 $25x^2 - 100x + 100 = (5x - 10)^2$   
 $25x^2 - 100x + 100 = 25x^2 - 100x + 100$   
 $0 = 0$   
25x^2 - 100x + 100  
25x^2 - 100x + 100  
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2.  $\sqrt{12x^2 - 18x + 9} = 2x - 3$   
 $12x^2 - 18x + 9 = (2x - 3)^2$   
 $12x^2 - 18x + 9 = 4x^2 - 12x + 9$   
 $8x^2 - 6x = 0$   
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3.  $\sqrt{4x^2 - 12x + 9} = 2x - 3$   
 $4x^2 - 12x + 9 = (2x - 3)^2$   
 $4x^2 - 12x + 9 = 4x^2 - 12x + 9$   
 $0 = 0$   
4x^2 - 12x + 9  
4x^2 - 12x + 9  
0 = 0

Check:  
 $2x(4x - 3) = 0$   
 $2x(4x - 3) = 0$