

Always, sometimes or never?

This task requires you to know if equations are always true, only true for some values of x , or never true.

Some equations are **always** true.

e.g., $2x = x + x$ is true for **all** values of x (3, 5.5 etc)

Some equations are only true for **some** value of x .

e.g., $x + 1 = 2$ is only true for **one** value of x (i.e., $x = 1$)

Some equations are **never** true.

e.g., $x = x + 1$ is **never** true whatever value x takes.

a) Select the correct option for this equation: $2x = 8$

- | | |
|--|---|
| <input type="radio"/> It is never true. | <input type="radio"/> It is true for only one value of x . |
| <input type="radio"/> It is true for only two values of x . | <input type="radio"/> It is true for any value of x . |

Explain your answer.

b) Select the correct option for this equation: $(x + 1)(x - 2) = 0$

- | | |
|--|---|
| <input type="radio"/> It is never true. | <input type="radio"/> It is true for only one value of x . |
| <input type="radio"/> It is true for only two values of x . | <input type="radio"/> It is true for any value of x . |

Explain your answer.

c) Select the correct option for this equation: $4(x + 3) = 4x + 7$

- | | |
|--|---|
| <input type="radio"/> It is never true. | <input type="radio"/> It is true for only one value of x . |
| <input type="radio"/> It is true for only two values of x . | <input type="radio"/> It is true for any value of x . |

Explain your answer.

d) Select the correct option for this equation: $x^2 = 16$

- | | |
|---|--|
| <input type="radio"/> It is never true. | <input type="radio"/> It is true for only one value of x. |
| <input type="radio"/> It is true for only two values of x. | <input type="radio"/> It is true for any value of x. |

Explain your answer.

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