



New Maths GCSE: A13 - Transformation of Functions - GCSE Epic Quiz

Name:.....

Date:.....

Which of these shows a translation of the graph $y = f(x)$ by the vector $\begin{pmatrix} 2 \\ 0 \end{pmatrix}$?

A $y = f(x) + 2$

B $y = f(x) - 2$

C $y = f(x + 2)$

D $y = f(x - 2)$

Correct Answer: A B C D

Explanation:

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Which of these shows a vertical stretch of the graph $y = f(x)$ by scale factor 2?

A $y = \frac{1}{2}f(x)$

B $y = 2f(x)$

C $y = f(2x)$

D $y = f(\frac{1}{2}x)$

Correct Answer: A B C D

Explanation:

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Describe the transformation from $y = f(x)$ to $y = f(x + 6)$

A Translation by the vector $\begin{pmatrix} 0 \\ -6 \end{pmatrix}$

B Translation by the vector $\begin{pmatrix} -6 \\ 0 \end{pmatrix}$

C Translation by the vector $\begin{pmatrix} 0 \\ 6 \end{pmatrix}$

D Translation by the vector $\begin{pmatrix} 6 \\ 0 \end{pmatrix}$

Correct Answer: A B C D

Explanation:

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Describe the transformation from

$y = f(x)$ to $y = f(4x)$

- A** Stretch in the y-axis, scale factor 4
- B** Translation by the vector $\begin{pmatrix} 4 \\ 0 \end{pmatrix}$
- C** Stretch in the x-axis, scale factor $\frac{1}{4}$
- D** Stretch in the x-axis, scale factor 4

Correct Answer: A B C D

Explanation:

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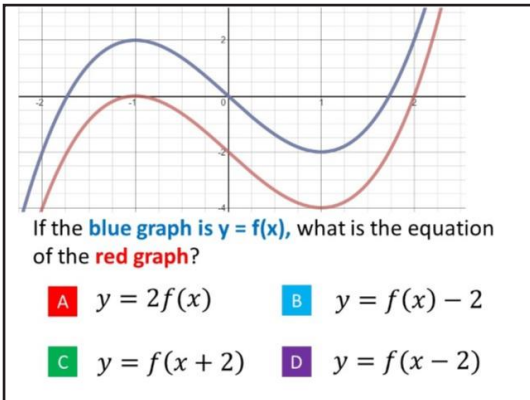
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Correct Answer: A B C D

Explanation:

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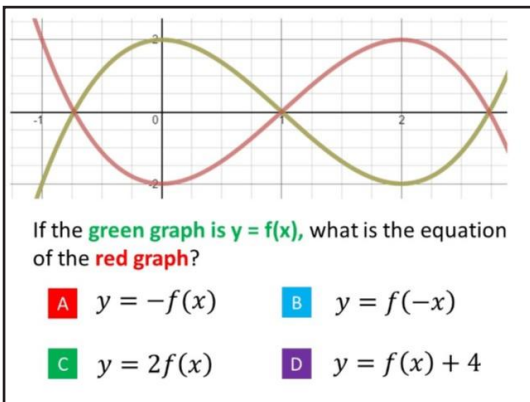
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Correct Answer: A B C D

Explanation:

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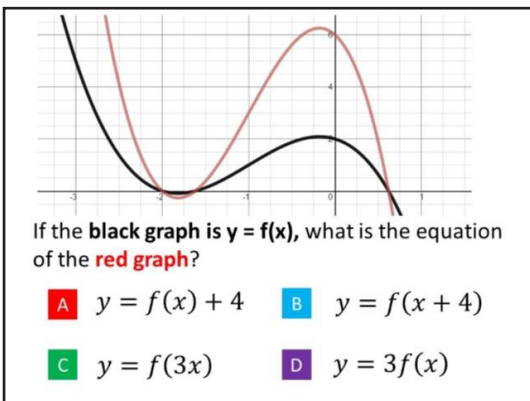
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Correct Answer: A B C D

Explanation:

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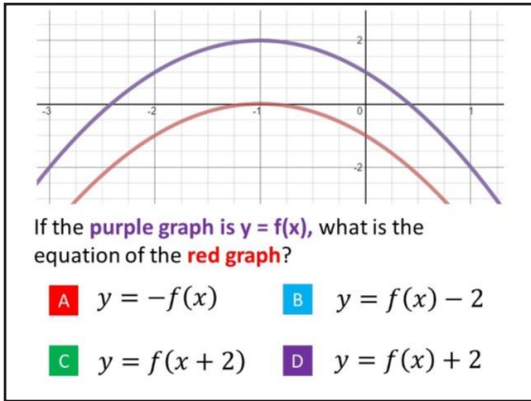
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Correct Answer: A B C D

Explanation:

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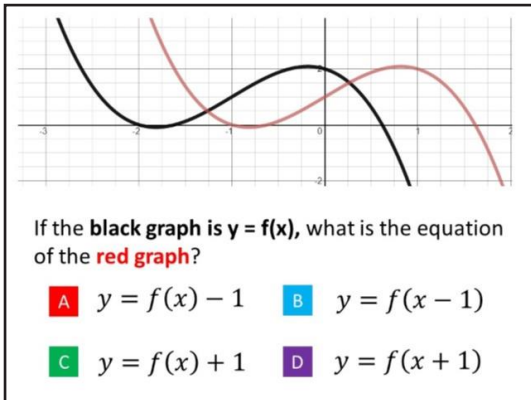
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Correct Answer: A B C D

Explanation:

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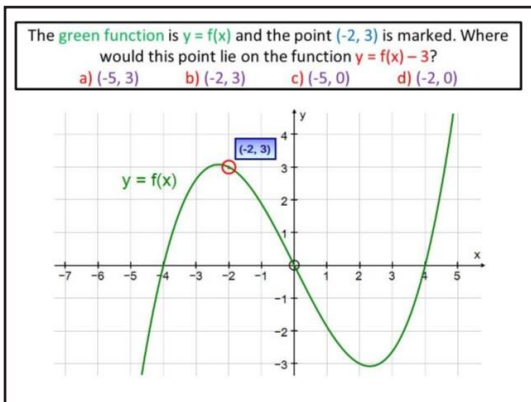
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Correct Answer: A B C D

Explanation:

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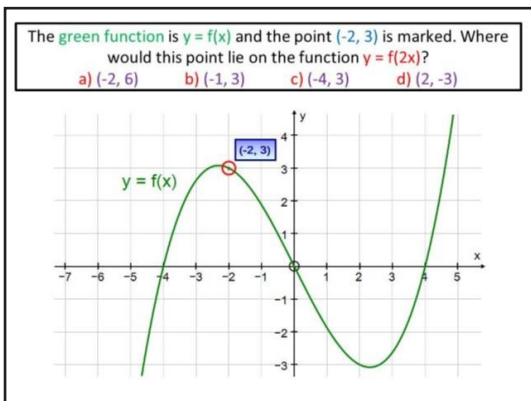
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Correct Answer: A B C D

Explanation:

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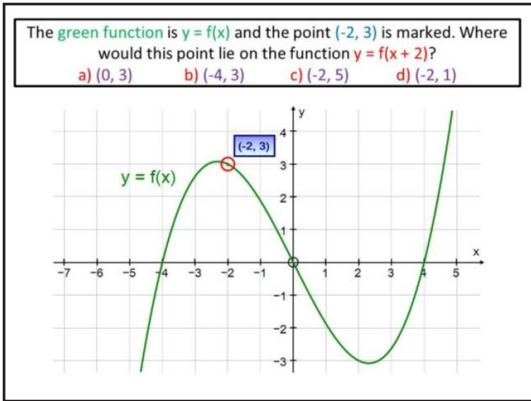
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Correct Answer: A B C D

Explanation:

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What single transformation has taken $y = x^2$ to $y = (x - 2)^2$?

- A: A movement of 2 squares up
- B: A movement of 2 squares down
- C: A movement of 2 squares right
- D: A movement of 2 squares left

Correct Answer: A B C D

Explanation:

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Which transformation would take $y = x^2$ to the graph $y = x^2 - 3$

A Translation $\begin{pmatrix} 3 \\ 0 \end{pmatrix}$

B Translation $\begin{pmatrix} -3 \\ 0 \end{pmatrix}$

C Translation $\begin{pmatrix} 0 \\ 3 \end{pmatrix}$

D Translation $\begin{pmatrix} 0 \\ -3 \end{pmatrix}$

Correct Answer: A B C D

Explanation:

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Which transformation would take $y = \sin x$ to the graph $y = 2\sin x$?

A Horizontal stretch sf2

B Horizontal stretch sf0.5

C Vertical stretch sf2

D Vertical stretch sf0.5

Correct Answer: A B C D

Explanation:

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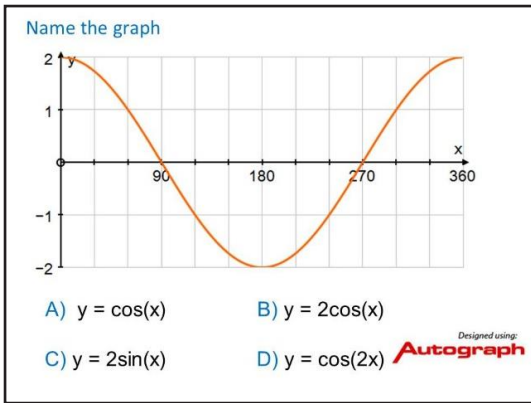
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Correct Answer: A B C D

Explanation:

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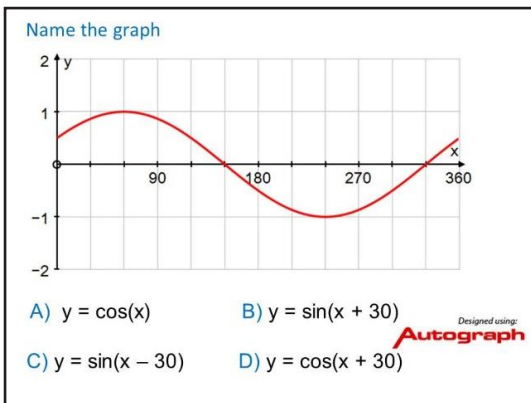
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Correct Answer: A B C D

Explanation:

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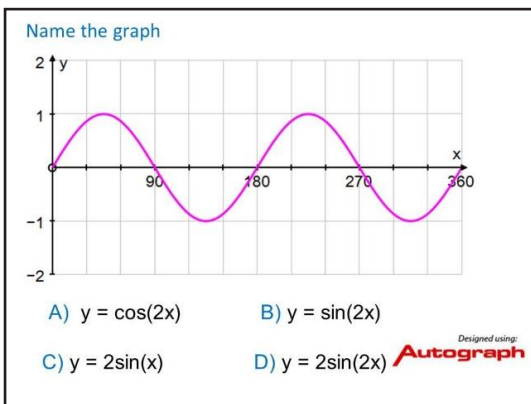
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Correct Answer: A B C D

Explanation:

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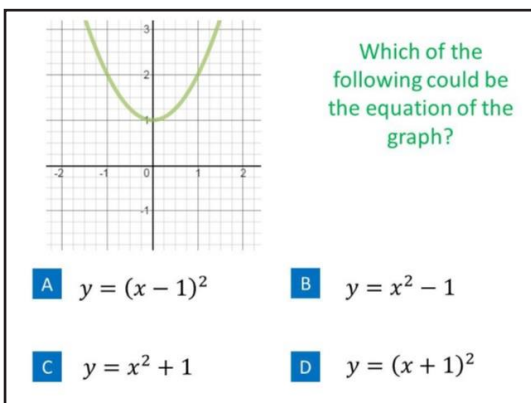
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Correct Answer: A B C D

Explanation:

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Which of the following could be the equation of the graph?

A $y = (x - 3)^2$ **B** $y = x^2 - 3$

C $y = x^2 + 3$ **D** $y = (x + 3)^2$

Correct Answer: A B C D

Explanation:

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