
COMPOSITE

- 1 D
- 2 The rule of correspondence is $E(t) = 4|t - 3| + 6$.
Accept any equivalent equation.
- 3 The temperature of the rod is 80.6 degrees Fahrenheit.
- 4 A
- 5 A

COMPOSITE

1 Given $f(x) = 4x + 1$ and $g(x) = -|x - 2| + 3$.

What is the range of $(g \circ f)(x)$?

- A) $[3, \infty[$ C) $] -\infty, 14]$
B) $[14, \infty[$ D) $] -\infty, 3]$

2 Given $E(t) = (g \circ f)(t)$, where $f(t) = -2t + 7$ and $g(t) = 2|t - 1| + 6$.

What is the rule of correspondence of $E(t)$?

3 The length of a metal rod varies in relation to temperature according to the rule:

$$l(x) = \log_3(x) + 7$$

where $l(x)$ represents the length of the rod in centimetres and x represents the temperature of the rod in degrees Celsius.

To convert from degrees Celsius to degrees Fahrenheit, the following rule is used:

$$f(x) = \frac{9x}{5} + 32$$

where $f(x)$ represents degrees Fahrenheit and x represents degrees Celsius.

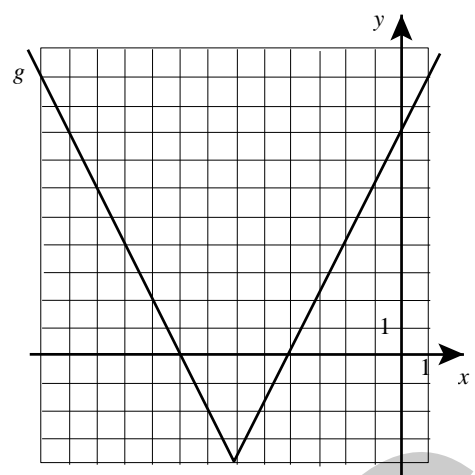
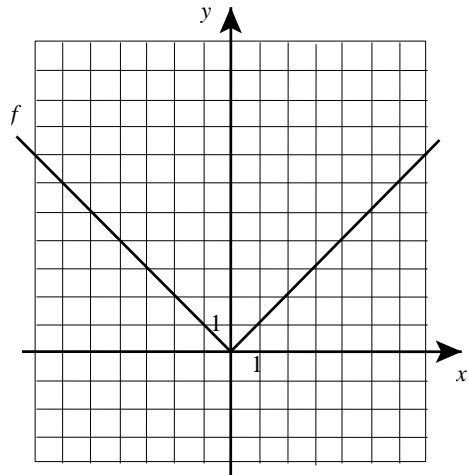
What is the temperature, in degrees Fahrenheit, of the metal rod if its length is 10 cm?

4 Given function f such that $f(x) = 2x - 1$ and function g defined by $g(x) = 3x^2 + 5$.

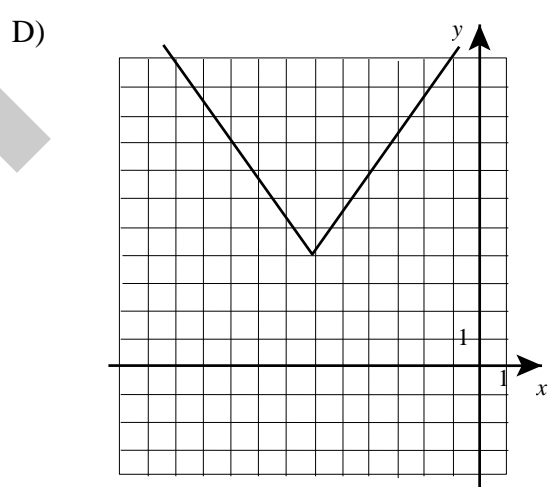
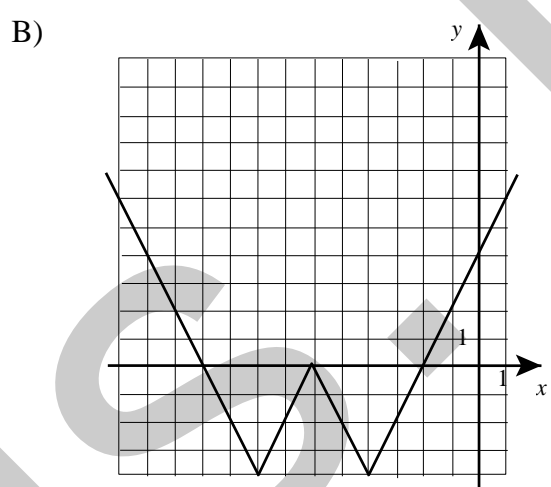
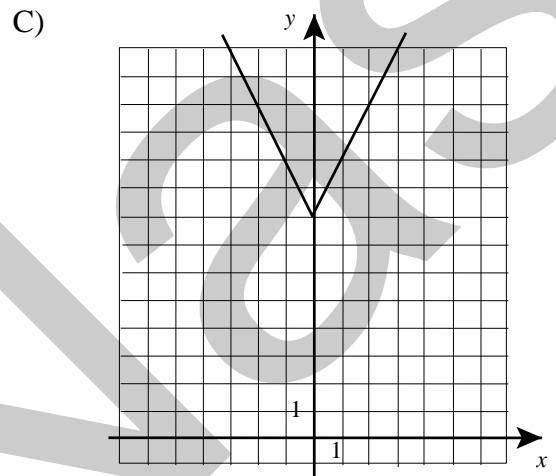
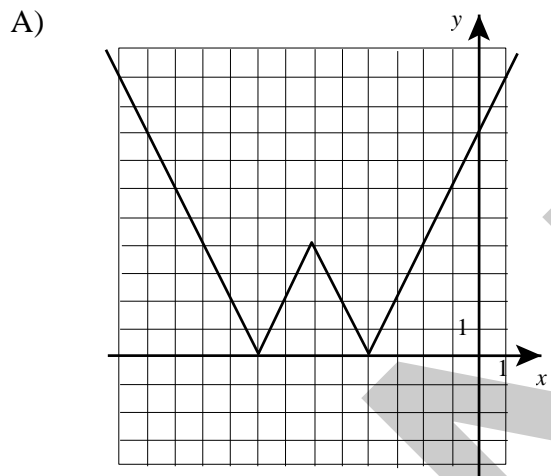
Which expression represents $(g \circ f)(x)$?

- A) $12x^2 - 12x + 8$ C) $12x^2 + 8$
B) $12x^2 - 4x + 6$ D) $6x^2 + 9$

5 Functions f and g are represented below.



Which of the following is the graph of $f \circ g$?



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