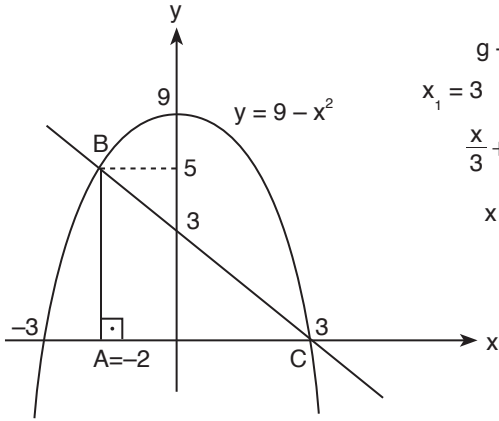


1.



$$y = 3 - x \Rightarrow y = 3 - (-2) = 5$$

$$A(ABC) = \frac{5 \cdot 5}{2} = \frac{25}{2}$$

$$g - x^2 = 0$$

$$x_1 = 3 \quad x_2 = -3$$

$$\frac{x}{3} + \frac{y}{3} = 1$$

$$x + y = 3$$

$$\boxed{y = 3 - x}$$

$$g - x^2 = 3 - x$$

$$x^2 - x - 6 = 0$$

$$x_1 = -2 \quad x_2 = 3$$

Cevap: C

$$2. \quad E) \quad \left. \begin{array}{l} f(3) > 0 \\ f(-3) < 0 \end{array} \right\} \begin{array}{l} f(3) > f(-3) \\ \text{olmalı} \end{array}$$

Cevap: E

$$3. \quad C) \quad g(x) = 2 - \frac{f(x)}{2}$$

$$g(4) = 2$$

$$f(4) = 0$$

$$g(4) = 2 - \frac{f(4)}{2}$$

$$2 = 2$$

Cevap: C

$$4. \quad f(x) \rightarrow \frac{x}{-1} + \frac{y}{2} = 1 \Rightarrow y = 2 + 2x$$

$$f(x) = 2 + 2x$$

$$g(x) \rightarrow \frac{x}{-1} + \frac{y}{-3} = 1 \Rightarrow y = -3 - 3x$$

$$g(x) = -3 - 3x$$

$$(g \circ f)'(4) = g'(f(4)) \cdot f'(4) \text{ olur.}$$

$$f'(x) = 2 \text{ ve } g'(x) = -3 \text{ olup}$$

$$g'(f(4)) \cdot f'(4) = g'(10) \cdot 2 = -3 \cdot 2 = -6$$

Cevap: A

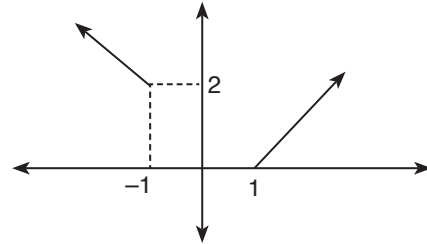
$$5. \quad x < -1 \quad \text{için; } x = -1 \quad f(-1) = 1 + 1 = 2 \quad (+)$$

$$-1 \leq x \leq 1 \quad \text{için; } x = 1 \quad f(1) = 0$$

$$f() =$$

$$1 < x \quad \text{için; } x = 2 \quad f(2) = 1 \quad (+)$$

O halde şıklar incelenirse cevap E olur.



Cevap: E

$$6. \quad \begin{aligned} \text{fofofof}(-5) &= (\text{fofof})(f(-5)) \\ &= (\text{fofof})(-3) = (\text{fof})(f(-3)) \\ &= (\text{fof})(3) = f(f(3)) \\ &= f(-4) = 0 \end{aligned}$$

Cevap: D

$$7. \frac{x}{6} + \frac{y}{-3} = 1 \Rightarrow x - 2y = 6$$

$$f(x) = \frac{x-6}{2}$$

$$f^{-1}(x) = \frac{x+3}{\frac{1}{2}} = 2x + 6$$

$$(g \circ f^{-1})(-1) + (f^{-1} \circ g)(8)$$

$$g(f^{-1}(-1)) + f^{-1}(g(8)) = g(4) + f^{-1}(1) \\ = 5 + 8 = 13$$

Cevap: C

$$8. g(x) = \frac{f(x)}{x}$$

$$g'(x) = \frac{f'(x) \cdot x - f(x)}{x^2}$$

$$g'(5) = \frac{f'(5) \cdot 5 - f(5)}{5^2}$$

$$= \frac{0 - 3}{25} = -\frac{3}{25}$$

Cevap: A

$$9. f(x) = a \left(x - \frac{5}{2} \right)^2 + 5$$

$$4 = \frac{25a}{4} + 5 \Rightarrow a = -\frac{4}{25}$$

$$f(x) = -\frac{4}{25} \left(x^2 - 2 \cdot \frac{5}{2} \cdot x + \frac{25}{4} \right) + 5$$

$$b = +\frac{4}{25} \cdot 2 \cdot \frac{5}{2} = \frac{4}{5}$$

Cevap: D

$$10. \frac{x}{-2} + \frac{y}{6} = 1 \quad x = 4 \text{ için}$$

$$\frac{4}{-2} + \frac{y}{6} = 1 \Rightarrow y = 18$$

Cevap: C

$$11. |x-1| \leq 2 \Rightarrow -2 \leq x-1 \leq 2 \Rightarrow -1 \leq x \leq 3 \\ |y+1| < 1 \Rightarrow -1 < y+1 < 1 \Rightarrow -2 < y < 0$$

Cevap: A

$$12. \left. \begin{array}{l} f(-1) > 0 \\ f(1) > 0 \end{array} \right\} f(-1) \cdot f(1) > 0$$

Cevap: D

$$13. f(x) = a(x+1)(x-7)$$

$$\frac{7}{3} = -7a \Rightarrow a = -\frac{1}{3}$$

$$f(x) = -\frac{1}{3}(x^2 - 6x - 7)$$

$$= -\frac{x^2}{3} + 2x + \frac{7}{3}$$

Cevap: A

$$14. f(x) = a(x-1)(x-2)$$

$$2 = 2a$$

$$1 = a$$

$$f\left(\frac{3}{2}\right) = 1 \cdot \left(\frac{3}{2} - 1\right) \left(\frac{3}{2} - 2\right) = \frac{1}{2} \cdot \left(-\frac{1}{2}\right) = -\frac{1}{4}$$

Cevap: D

$$\begin{aligned}
 15. \quad f^2(x) + 2f(x) + 1 &= x^2 + 6x + 9 \\
 (f(x) + 1)^2 &= (x + 3)^2 \\
 f(x) + 1 &= -x - 3 \\
 f(x) &= -x - 4 \\
 f(3) &= -7
 \end{aligned}$$

Cevap: E

$$\begin{aligned}
 16. \quad f(2) &= 4 - 14 + m = 0 \Rightarrow \boxed{m = 10} \\
 f(x) &= x^2 - 7x + 10 \\
 &\quad \downarrow \quad \quad \downarrow \\
 &\quad x \quad \quad -2 \\
 &\quad x \quad \quad -5
 \end{aligned}$$

$$\left. \begin{array}{l} B(5, 0) \\ A(0, 10) \end{array} \right\} |AB| = \sqrt{10^2 + 5^2} = 5\sqrt{5}$$

Cevap: B

$$\begin{aligned}
 17. \quad f(x) &= a(x + 2)(x - 4) \\
 4 &= -8a \\
 -\frac{1}{2} &= a \\
 f(x) &= -\frac{1}{2}(x^2 - 2x - 8) = -\frac{x^2}{2} + x + 4
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 18. \quad f'(x) &= 2x \cdot g(x) + g'(x) \cdot x^2 \\
 f'(2) &= 2 \cdot 2 \cdot g(2) + g'(2) \cdot 2^2 \\
 &= 4 \cdot 1 + 1 \cdot 4 = 8
 \end{aligned}$$

Cevap: D

$$\begin{aligned}
 19. \quad (f \circ f \circ f)(-3) &= (f \circ f)(f(-3)) \\
 &= (f \circ f)(0) = f(f(0)) = f(6) \\
 &= -4
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 20. \quad (g \circ f \circ g^{-1})(0) &= (g \circ f)(g^{-1}(0)) \\
 &= (g \circ f)(2) = g(f(2)) \\
 &= g(5) = 3
 \end{aligned}$$

Cevap: D