Choose the correct answer in each of the following:

Section 1.3:

1. If $F(x) = 5^{\cos x^2}$, $h(x) = x^2$, $g(x) = \cos x, f(x) = 5^x$, then

(**a**) $F = f \circ g \circ h$

(**b**) $F = g \circ h \circ f$

(**c**) $F = h \circ f \circ g$

(**d**) $F = h \circ g \circ f$

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2. If $f(x) = 7$ and $g(x) = x + 1$ then $(f \circ g)(4) =$

(**a**) 7

(**b**) 8

(**c**) 11

(**d**) 5

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3. The domain of the function $f(x) = 4 + \sqrt{x+1}$ is

(**a**) $[4, \infty)$

(**b**) $[-4, \infty)$

(**c**) $[-1, \infty)$

(**d**) $[1, \infty)$

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4. If the graph of the function $f(x) = \sin x$ is shifted 2 units upward, then the range of the new function is

(**a**) $[-3, -1]$

(**b**) $[-1, 1]$

(**c**) $[1, 3]$

(**d**) $[-2, 2]$

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5. The graph of the function $f(x) = -3^{x-5}$ is obtained from the graph of $f(x) = 3^x$ by

(**a**) reflecting about the x –axis and shifting 5 units to the left

(**b**) reflecting about the y –axis and shifting 5 units to the right

(**c**) reflecting about the y –axis and shifting 5 units to the left.

(**d**) reflecting about the x –axis and shifting 5 units to the right .

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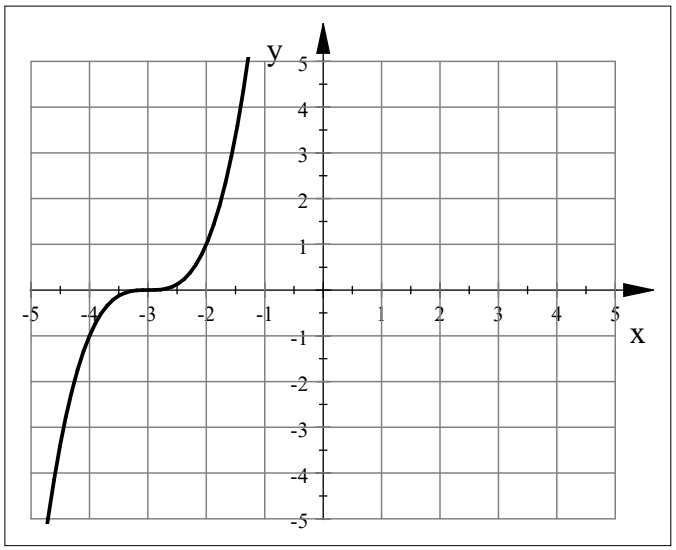
6. The following figure represents the graph of the function $f(x) =$



(**a**) $x^3 - 3$

(**b**) $(x+3)^3$

(**c**) $(x-3)^3$

(**d**) $x^3 + 3$

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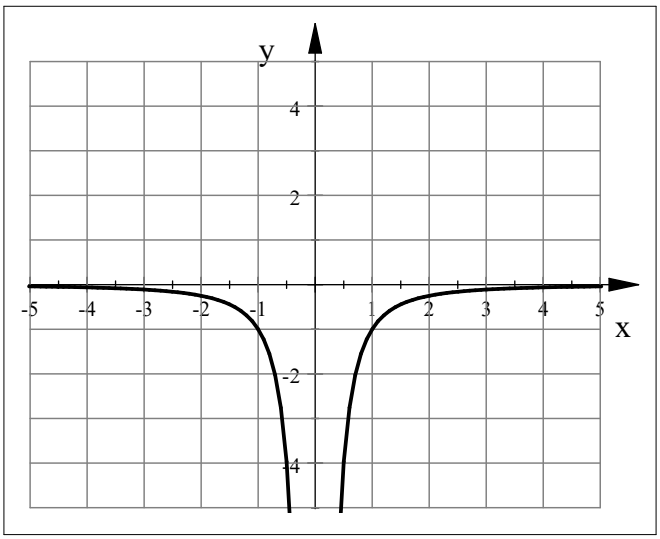
7. The following figure represents the graph of the function $f(x) =$



(**a**) $\frac{-1}{x^2}$

(**b**) $\frac{1}{x^2}$

(**c**) $\frac{1}{(x-1)^2}$

(**d**) $\frac{1}{x^2} - 1$

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answers: **1-a**, **2-a**, **3-c**, **4-c**, **5-d**, **6-b**, **7-a**.