

F.IF.A.2: Domain and Range 3b

- 1 The range of the function $f(x) = x^2 + 2x - 8$ is all real numbers

- 2 What is the domain of $f(x) = 2^x$?

- 3 What is the domain of the function $g(x) = 3^x - 1$?

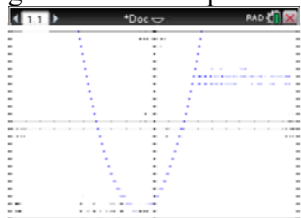
- 4 The range of the function defined as $y = 5^x$ is

- 5 If $f(x) = \frac{1}{3}x + 9$, which statement is always true?
 - 1) $f(x) < 0$
 - 2) $f(x) > 0$
 - 3) If $x < 0$, then $f(x) < 0$.
 - 4) If $x > 0$, then $f(x) > 0$.

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Answer Section

- 1 ANS:
greater than or equal to -9



$$f(x) = x^2 + 2x - 8 = x^2 + 2x + 1 - 9 = (x + 1)^2 - 9$$

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- 2 ANS:
all real numbers

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- 3 ANS:
 $(-\infty, \infty)$

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- 4 ANS:
 $y > 0$

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- 5 ANS: 4 REF: 061417ai