

F.IF.A.2: Domain and Range 2a

- 1 Let f be a function such that $f(x) = 2x - 4$ is defined on the domain $2 \leq x \leq 6$. The range of this function is
 - 1) $0 \leq y \leq 8$
 - 2) $0 \leq y < \infty$
 - 3) $2 \leq y \leq 6$
 - 4) $-\infty < y < \infty$

- 2 What is the range of the relation $y = 2x^2 + 3x$ if the domain is the set $\{-2, -1, 0\}$?
 - 1) $\{2, 1, 0\}$
 - 2) $\{2, -1, 0\}$
 - 3) $\{-1, -5, 0\}$
 - 4) $\{10, 1, 0\}$

- 3 If the domain of the function $f(x) = 2x^2 - 8$ is $\{-2, 3, 5\}$, then the range is
 - 1) $\{-16, 4, 92\}$
 - 2) $\{-16, 10, 42\}$
 - 3) $\{0, 10, 42\}$
 - 4) $\{0, 4, 92\}$

- 4 The domain for $f(x) = 3x + 2$ is $-3 \leq x \leq 2$. The greatest value in the range of $f(x)$ is
 - 1) -7
 - 2) 2
 - 3) 8
 - 4) 11

- 5 The domain of $f(x) = x^2 + 2x + 1$ is $-3 \leq x \leq 3$. The largest value in the range of $f(x)$ is
 - 1) 20
 - 2) 16
 - 3) 3
 - 4) 4

- 6 If the domain of $f(x) = 2x + 1$ is $\{-2 \leq x \leq 3\}$, which integer is *not* in the range?
 - 1) -4
 - 2) -2
 - 3) 0
 - 4) 7

- 7 If the domain of $f(x) = 2x + 3$ is $\{-3 < x \leq 0\}$, which number is *not* in the range?
 - 1) -1
 - 2) 0
 - 3) 3
 - 4) 6

- 8 What is the domain of the relation shown below?
 $\{(4, 2), (1, 1), (0, 0), (1, -1), (4, -2)\}$
 - 1) $\{0, 1, 4\}$
 - 2) $\{-2, -1, 0, 1, 2\}$
 - 3) $\{-2, -1, 0, 1, 2, 4\}$
 - 4) $\{-2, -1, 0, 0, 1, 1, 1, 2, 4, 4\}$

- 9 A function is defined by the equation $y = 8x - 3$. If the domain is $2 \leq x \leq 4$, find the minimum value in the range of the function.

- 10 If the domain of $f(x) = x^2 + 1$ is limited to $\{0, 1, 2, 3\}$, what is the maximum value of the range?

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Answer Section

1 ANS: 1

$$f(2) = 0$$

$$f(6) = 8$$

REF: 081411ai

2 ANS: 2 REF: 088433siii

3 ANS: 3

$$f(-2) = 0, f(3) = 10, f(5) = 42$$

REF: 011812ai

4 ANS: 3 REF: 088924siii

5 ANS: 2 REF: 089927siii

6 ANS: 1 REF: 080132siii

7 ANS: 4 REF: 080320siii

8 ANS: 1 REF: 081710ai

9 ANS:

13

REF: 019013siii

10 ANS:

10

REF: 060209siii