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

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

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

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

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

5 What is the range of $f(x) = |x - 3| + 2$?
1) $\{x \mid x \ge 3\}$
2) $\{y \mid y \ge 2\}$
3) $\{x \mid x \in \text{real numbers}\}$
4) $\{y \mid y \in \text{real numbers}\}$

6 The range of the function $f(x) = 3|x - 4| - 5$ is
1) $x \ge 0$
2) $f(x) \ge 0$
3) $x \ge -5$
4) $f(x) \ge -5$

7 What is the range of $f(x) = (x + 4)^2 + 7$?
1) $y \ge -4$
2) $y \ge 4$
3) $y = 7$
4) $y \ge 7$

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

9 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) $\{10, 1, 0\}$

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?

11 What is the domain of the function $f(x) = \sqrt{x-2}$?
1) $\{x|x \geq 0\}$
2) $\{x|x \geq 2\}$
3) $\{x|x \leq 2\}$
4) $\{x|x \geq -2\}$

12 For what values of x will the function $f(x) = \sqrt{x-4}$ be real?
1) $\{x|x < 0\}$
2) $\{x|x > 0\}$
3) $\{x|x \leq 4\}$
4) $\{x|x \geq 4\}$

13 In the set of real numbers, what is the domain of $f(x) = \sqrt{x+5}$?
1) $x \geq -5$
2) $x \leq -5$
3) $x > -5$
4) $x \geq 0$

14 What is the domain of the function $f(x) = \sqrt{x-2} + 3$?
1) $(-\infty, \infty)$
2) $(2, \infty)$
3) $[2, \infty)$
4) $[3, \infty)$

15 What is the domain of $f(x) = 2^x$?
1) all integers
2) all real numbers
3) $x \geq 0$
4) $x \leq 0$

16 What is the domain of the function $g(x) = 3^x - 1$?
1) $(-\infty, 3]$
2) $(-\infty, 3)$
3) $(-\infty, \infty)$
4) $(-1, \infty)$

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Answer Section

1	ANS: 3	REF: 088924siii
2	ANS: 1	REF: 080132siii
3	ANS: 4	REF: 080320siii
4	ANS: 13	REF: 019013siii
5	ANS: 2	REF: 011222a2
6	ANS: 4	REF: 011719a2
7	ANS: 4	REF: 061112a2
8	ANS: 2	REF: 089927siii
9	ANS: 2	REF: 088433siii
10	ANS: 10	REF: 060209siii
11	ANS: 2	REF: 068031siii
12	ANS: 4	REF: 069031siii
13	ANS: 1	REF: 060135siii
14	ANS: 3	REF: fall0923a2
15	ANS: 2	REF: 080204b
16	ANS: 3	REF: 081517a2