34. If $f(x)=5x$ and $g(x)=x+5$, then $f(g(10))=$

35. If x and y are nonzero integers, which of the following must be an integer?

(A) $x+\frac{y}{x}$

(B) $\frac{x+y^2}{x}$

(C) $\frac{x^2+xy}{x}$

(D) $\frac{x^2+y^2}{x}$

$A=\{a,b\}$ and $B=\{b,c\}$,
where a, b, and c are distinct numbers.

36. Which of the following ordered pairs is NOT in the Cartesian product $A\times B$?

(A) (a,b) (B) (b,a) (C) (b,b) (D) (b,c)

37. Each number in data set A is increased by adding 3 to each data point to form data set B. Which of the following is the same for sets A and B ?

(A) Mean
(B) Median
(C) Mode
(D) Range

38. Sam opened a restaurant. On the first day he had 100 customers. On the fourth day he had 160 customers. If the number of customers per day grew linearly, what was the number of customers on the second day?

39. In a group of 33 students, 15 students are enrolled in a mathematics course, 10 are enrolled in a physics course, and 5 are enrolled in both a mathematics course and a physics course. How many students in the group are not enrolled in either a mathematics course or a physics course?

(A) 3
(B) 8
(C) 13
(D) 20

40. A drawer contains exactly 5 red, 4 blue, and 3 green pencils. If two pencils are selected at random one after the other without replacing the first, what is the probability that the first one is red and the second one is green?

(A) $\frac{5}{44}$ (B) $\frac{5}{48}$ (C) $\frac{91}{132}$ (D) $\frac{2}{3}$

41. If $f(x)=\frac{1}{x-2}$, where $x\neq 2$, and $g(x)=2^x$ for all values of x, then $f(g(0))$ is

(A) -1
(B) $-\frac{1}{2}$
(C) 0
(D) undefined