

Diagnostic Test

Segment 1

You may NOT use a calculator on this segment.

1. Which list shows the numbers arranged from least to greatest?

(A) $\sqrt{7}, \frac{1}{9}, \frac{1}{3}, -\frac{1}{6}$

(B) $\sqrt{7}, \frac{1}{3}, \frac{1}{9}, -\frac{1}{6}$

(C) $-\frac{1}{6}, \frac{1}{3}, \frac{1}{9}, \sqrt{7}$

(D) $-\frac{1}{6}, \frac{1}{9}, \frac{1}{3}, \sqrt{7}$

8.1.1.2

2. The graph of the function $f(x) = \frac{1}{3}x + 7$ can be described best as:

- (A) curved
(B) linear
(C) sequential
(D) non-linear

8.2.1.3

3. During a science experiment, Kyle counted the number of bacteria present in a petri dish after every minute.

Number of Minutes	Number of Bacteria
1	1
2	4
3	9
4	16

Which function notation represents $f(n)$, the number of bacteria in n minutes?

- (A) $f(n) = 3n$
(B) $f(n) = n^2$
(C) $f(n) = 4n$
(D) $f(n) = 2n$

8.2.1.5

4. Which of the functions is linear?

(A) $f(x) = x^2 + 3$

(B) $f(x) = -\frac{3}{5}x + 8$

(C) $f(x) = \frac{1}{2}x^2 - 1$

(D) $f(x) = x^3 + 2$

8.2.1.3

5. Which expression is equivalent to $5^2 \times 5^{-3}$?

(A) 5^{-6}

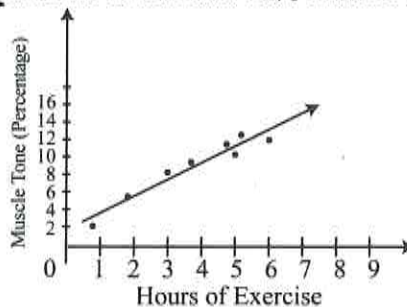
(B) $\frac{1}{5^6}$

(C) $\frac{1}{5}$

(D) 5

8.1.1.4

6. Based upon the scatter plot below, about how many hours would Casey have to exercise to achieve 16% muscle tone?



- (A) 9
(B) 6.5
(C) 7.5
(D) 10

8.4.1.3