

Mathematics Algebra I Benchmark Assessment

- 28 The function below has a maximum value of 10.5.

$$f(x) = -\frac{1}{2}x^2 + 4x + c$$

Which of the following shows an equivalent function and the value of the constant c ?

- (A) $g(x) = -\frac{1}{2}(x-4)^2 + c + 8$ where $c = 2.5$
- (B) $g(x) = -\frac{1}{2}(x-4)^2 + c + 8$ where $c = -5$
- (C) $h(x) = -\frac{1}{2}(x-1)^2 + c + 0.5$ where $c = 10$
- (D) $h(x) = -\frac{1}{2}(x-1)^2 + c + 0.5$ where $c = -20$