1.) $w=\frac{l}{8}$

 $h=3w $

An engineer determined that a bridge he is designing has a maximum stability when its length, $l$, width, $w$, and height, $h$, are defined by the equations above. If he wants to build a bridge with a height of 9 meters, what should be the length of the bridge, in meters?

A) 48

B) 24

C) 12

D) 6

2.) $2x^{2}-x=15$

Which of the following is a correct value for $x$ in the equation above?

A) 3

B) 2

C) -2

D) -4

3.) The formula $d=rt $is used to calculate the distance an object travels over a period of time, $t$, at a constant rate, $r$. Based on this formula, what is the rate, $r$, in terms of $d$ and $t$?

A) $r=\frac{d}{t}$

B) $r=dt$

C) $r=\frac{t}{d}$

D) $r=d-t$

4.) The sum of four consecutive integers is 190. What is the third integer?

A) 45

B) 46

C) 47

D) 48

5.) What value of $y$ satisfies the equation below?

$$\frac{9}{4}\left(y-8\right)=\frac{27}{2}$$

6.)

$$\frac{3\left(k-1\right)+5}{2}=\frac{17-(8+k)}{4}$$

In the equation above, what is the value of $k$?

A) $\frac{9}{13}$

B) $\frac{5}{7}$

C) $\frac{8}{7}$

D) $\frac{8}{5}$