

EmSAT Test-2

1-

An observer standing 50 meters away from a building notices a flagpole on the top of the building. If the angle of elevation to the base of the flagpole is 46.2° and the angle of elevation to the top of the flagpole is 50.1° , what is the height of the flagpole?

- ☐ A. 2.3 m
- ☐ B. 2.5 m
- ☐ C. 59.8 m
- ☐ D. 7.7 m
- ☐ E. 3.4 m

2-

If $n \geq 1$, which of the following expressions is equivalent to $\frac{n!(n+6)!}{(n+7)!(n-1)!}$?

- ☐ A. $\frac{n}{n+7}$
- ☐ B. $\frac{n}{n+6}$
- ☐ C. $\frac{n^2+6n}{n^2+6n-7}$
- ☐ D. $\frac{6n}{7n-7}$
- ☐ E. $\frac{n+7}{n}$

3-

If $(-5, 11)$ is a point on the terminal side of an angle θ in standard position, find the exact value of $\sec \theta$.

- ☐ A. $-\frac{5}{11}$
- ☐ B. $-\frac{4\sqrt{6}}{5}$
- ☐ C. $-\frac{\sqrt{146}}{11}$
- ☐ D. $-\frac{11}{5}$
- ☐ E. $-\frac{\sqrt{146}}{5}$

4-

What is the maximum value of $f(x) = -3\sin(5x - 4)$?

- ☐ A. 5
- ☐ B. 3
- ☐ C. 4
- ☐ D. 1.5
- ☐ E. 15