

No calculators will be allowed and no partial credit will be given.

1. Evaluate the limit $\lim_{x \rightarrow 1} \frac{x^2 + 2x + 4}{x + 2}$. Express your answer in simplified form.
2. Evaluate the limit $\lim_{x \rightarrow -1} \frac{6x + 2}{2x + 7}$. Express your answer in simplified form.
3. Evaluate the limit $\lim_{x \rightarrow 5} \frac{x^2 - 3x - 10}{x - 5}$. Express your answer in simplified form.
4. Evaluate the limit $\lim_{t \rightarrow 0} \frac{(t + 4)^2 - 16}{t}$. Express your answer in simplified form.
5. Find the value of $\lim_{x \rightarrow 5} \frac{3x^2 - 75}{x - 5}$. Express your answer in simplified form.
6. Find the value of $\lim_{x \rightarrow 5^+} (\ln(3x^2 - 75) - \ln(x - 5))$. Express your answer in simplified form.
7. Find the value of $\lim_{x \rightarrow 5} \left(e^{\frac{1}{(x-5)}} \right)^{(3x^2-75)}$. Express your answer in simplified form.
8. Evaluate the limit $\lim_{x \rightarrow 16} \frac{16 - x}{4 - \sqrt{x}}$. Express your answer in simplified form.

1. $\frac{7}{3}$

2. $-\frac{4}{5}$

3. 7

4. 8

5. 30

6. $\ln(30)$

7. e^{30}

8. 8