

Evaluate limits at infinity of functions**Answer key**

1. Evaluate the following limit.

$$\lim_{x \rightarrow \infty} \frac{-4x^2 - 5x + 2}{7x^5 + 7x}$$

0

2. Evaluate the following limit.

$$\lim_{x \rightarrow \infty} \frac{8x^4 - 3x^2 - 7}{-6x^5 - 6x}$$

0

3. Evaluate the following limit.

$$\lim_{y \rightarrow \infty} \frac{10y^6 + y^5 - 3}{-3y^6 - 6y^5}$$

 $-\frac{10}{3}$

4. Evaluate the following limit.

$$\lim_{z \rightarrow \infty} \frac{2z^2 - 2z - 7}{-9z^4 + 4z}$$

0

5. Evaluate the following limit.

$$\lim_{z \rightarrow \infty} \frac{8z^4 + 3z^2 - 5}{4z^4 + z^2}$$

2

6. Evaluate the following limit.

$$\lim_{a \rightarrow \infty} \frac{-9a^7 + 5a^2 + 1}{2a^4 + 6a^2}$$

 $-\infty$

7. Evaluate the following limit.

$$\lim_{c \rightarrow \infty} \frac{-6c^7 - 7c + 3}{-8c^3 - c}$$

 ∞

8. Evaluate the following limit.

$$\lim_{x \rightarrow \infty} \frac{-2x^3 - 7x + 3}{-9x^3 - 6}$$

 $\frac{2}{9}$

9. Evaluate the following limit.

$$\lim_{z \rightarrow \infty} \frac{-9z^4 + 5z^3 - 1}{-10z^4 - z}$$

 $\frac{9}{10}$

10. Evaluate the following limit.

$$\lim_{x \rightarrow \infty} \frac{10x^5 - 7x - 3}{7x^5 - 6x}$$

 $\frac{10}{7}$

11. Evaluate the following limit.

$$\lim_{m \rightarrow \infty} \frac{-9m^4 - 2m^2 - 4}{-7m^4 + 3m}$$

 $\frac{9}{7}$

12. Evaluate the following limit.

$$\lim_{z \rightarrow \infty} \frac{9z^4 - 4z^3 - 4}{8z^7 + 3z^3}$$

0

13. Evaluate the following limit.

$$\lim_{c \rightarrow \infty} \frac{9c^4 + c - 2}{-5c^4 - 4c^2}$$

 $-\frac{9}{5}$

14. Evaluate the following limit.

$$\lim_{z \rightarrow \infty} \frac{6z^7 - 2z + 1}{-6z^3 + 4z}$$

 $-\infty$

15. Evaluate the following limit.

$$\lim_{b \rightarrow \infty} \frac{4b^4 - 7b^2 + 6}{5b^4 + 3}$$

$\frac{4}{5}$

17. Evaluate the following limit.

$$\lim_{n \rightarrow \infty} \frac{3n^5 - n^3 + 3}{-2n^7 + 2n^3}$$

0

19. Evaluate the following limit.

$$\lim_{a \rightarrow \infty} \frac{4a^4 + 5a + 7}{-6a^4 + 2}$$

$-\frac{2}{3}$

16. Evaluate the following limit.

$$\lim_{a \rightarrow \infty} \frac{9a^2 - 5a + 6}{6a^7 + 7a}$$

0

18. Evaluate the following limit.

$$\lim_{a \rightarrow \infty} \frac{-3a^6 - 7a - 7}{7a^6 - 4a^3}$$

$-\frac{3}{7}$

20. Evaluate the following limit.

$$\lim_{x \rightarrow \infty} \frac{-6x^5 + 4x + 5}{8x^5 + 4x^3}$$

$-\frac{3}{4}$