Task card 1 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to -3} \frac{x^2 + 4x + 3}{x^2 - 2x - 15}$$

Task card 2 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{e^{3x} - 1}{3x}$$

Task card 3 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{\sin 2x}{2x}$$

Task card 4 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 1} \frac{x^4 - 1}{\ln x}$$

Task card 5 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to \infty} \frac{-2x^2 - 6x - 4}{2x^2 - 3x - 2}$$

Task card 6 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 3} \frac{3x^2 - 5x - 12}{x^2 - 9x + 18}$$

Task card 7 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{e^{-4x} - 1}{3x}$$

Task card 8 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 3} \frac{2x^2 - 11x + 15}{x^2 - 5x + 6}$$

Task card 9 L'Hôpital's Rule for Limits

Find the limit: $\lim_{x \to 2}$ of

$$\frac{x^3 - 5x^2 + 2x + 8}{2x^2 + x - 10}$$

Task card 10 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{e^{2x} - 1}{\sin 3x}$$

Task card 11 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 1} \frac{3 \ln x}{x - 1}$$

Task card 12 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to \infty} \frac{-4x - 2}{5x^2 + 5x - 9}$$

Task card 13 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{e^{-2x} - 1}{5x}$$

Task card 14 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to \infty} \frac{x^3}{e^x}$$

Task card 15 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{\sin 6x}{x}$$

Task card 16 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{\sin 3x}{5x}$$

Task card 17 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to -4} \frac{3x^2 + 15x + 12}{2x^2 + 13x + 20}$$

Task card 18 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{\sin 4x}{e^{7x} - 1}$$

Task card 19 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 1} \frac{2 \ln x}{x^2 - 1}$$

Task card 20 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to \infty} \frac{3x - 3}{3x^2 + 5x - 4}$$

Task card 21 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{e^{4x} - 1}{5x}$$

Task card 22 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to \infty} \frac{4e^x + 8}{3e^x + 9}$$

Task card 23 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{\sin 7x}{4x}$$

Task card 24 L'Hôpital's Rule for Limits

Find the limit:

$$\lim_{x \to 0} \frac{e^{2x} - 1}{2x}$$

L'Hôpital's Rule for Limits Task Cards

Recording sheet · Grade 12 · Each limit gives 0/0 or ∞/∞ when you substitute. Use L'Hôpital's Rule (differentiate the top and the bottom separately) and give the exact value: a whole number or a fraction in simplest form.

Scan to check your answers

Name: _____ Date: _____

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

L'Hôpital's Rule for Limits Task Cards: Answer Key

Grade 12 · Medium

The answers online

1. $\frac{1}{4}$	**2.** 1	**3.** 1
4. 4	**5.** -1	**6.** $-\frac{13}{3}$
7. $-\frac{4}{3}$	**8.** 1	**9.** $-\frac{2}{3}$
10. $\frac{2}{3}$	**11.** 3	**12.** 0
13. $-\frac{2}{5}$	**14.** 0	**15.** 6
16. $\frac{3}{5}$	**17.** 3	**18.** $\frac{4}{7}$
19. 1	**20.** 0	**21.** $\frac{4}{5}$
22. $\frac{4}{3}$	**23.** $\frac{7}{4}$	**24.** 1