

1) $\lim_{x \rightarrow -2} (x^3 - 2x + 1) =$

- ☐ A 3 ☐ B -3 Θ ☐ C -11 ☐ D 13

2) $\lim_{x \rightarrow 2} (3x^2 + x - 4) =$

- ☐ A 10 Θ ☐ B 2 ☐ C 4 ☐ D -10

3) $\lim_{x \rightarrow 1} (x^2 + 3x - 5)^3 =$

- ☐ A 1 ☐ B -1 Θ ☐ C -3 ☐ D -13

4) $\lim_{x \rightarrow -2} (2x^3 + 3x^2 + 5) =$

- ☐ A -11 ☐ B 5 ☐ C 1 Θ ☐ D -1

5) $\lim_{x \rightarrow -2} \frac{x^2 - 2}{x - 2} =$

- ☐ A 0 ☐ B $-\frac{1}{2}$ Θ ☐ C -2 ☐ D $\frac{1}{2}$

6) $\lim_{x \rightarrow 2} \frac{x^3 + 5}{x^2 + 1} =$

- ☐ A does not exist ☐ B $\frac{9}{5}$ ☐ C $\frac{11}{5}$ ☐ D $\frac{13}{5}$ Θ

7) $\lim_{x \rightarrow 0} \frac{x^2 + 3x + 5}{x^2 - 3} =$

- ☐ A does not exist ☐ B $-\frac{5}{3}$ Θ ☐ C $\frac{5}{3}$ ☐ D 5

8) $\lim_{x \rightarrow 1} \frac{x - 1}{x^2 + x - 5} =$

- ☐ A does not exist ☐ B $-\frac{2}{3}$ ☐ C 0 Θ ☐ D -1

9) $\lim_{x \rightarrow -1} \sqrt{x^3 - 10x + 7} =$

- ☐ A does not exist ☐ B $\sqrt{3}$ ☐ C 4 Θ ☐ D $\sqrt{-5}$

10) $\lim_{x \rightarrow -1} \frac{1 - (x + 4)^{-2}}{x - 2} =$

- ☐ A does not exist ☐ B $-\frac{8}{27}$ Θ ☐ C $\frac{8}{3}$ ☐ D $\frac{8}{27}$

11)	$\lim_{x \rightarrow -1} \frac{x^3 + 2x}{8 - 2x}$	☐ A does not exist	☐ B $\frac{3}{10}$	☐ C $-\frac{3}{4}$	☐ D $-\frac{3}{10} \ominus$
12)	$\lim_{x \rightarrow 4} \frac{x^2 - 3x}{5 + x}$	☐ A does not exist	☐ B $-\frac{4}{9}$	☐ C $\frac{4}{9} \ominus$	☐ D $-\frac{8}{9}$
13)	$\lim_{x \rightarrow 4} \frac{x^2 - 4x}{5 + x}$	☐ A does not exist	☐ B $0 \ominus$	☐ C $\frac{4}{3}$	☐ D $-\frac{8}{9}$
14)	$\lim_{x \rightarrow 4} \frac{3^{-1} - (2x - 5)^{-1}}{4 - x}$	☐ A does not exist	☐ B 0	☐ C $\frac{2}{9}$	☐ D $-\frac{2}{9} \ominus$
15)	$\lim_{x \rightarrow 0} \frac{x^3 - 5x^2}{x^2} =$	☐ a 5	☐ b $-5 \ominus$	☐ c -10	☐ d 0
16)	$\lim_{x \rightarrow 6} \frac{x - 6}{x^2 - 36} =$	☐ a 12	☐ b $\frac{1}{12} \ominus$	☐ c $\frac{1}{8}$	☐ d 0
17)	$\lim_{x \rightarrow 6} \frac{x^2 - 36}{x - 6} =$	☐ a $12 \ominus$	☐ b $\frac{1}{12}$	☐ c 8	☐ d 0
18)	$\lim_{x \rightarrow -6} \frac{x + 6}{x^2 - 36} =$	☐ a -12	☐ b $-\frac{1}{8}$	☐ c $-\frac{1}{12} \ominus$	☐ d 0
19)	$\lim_{x \rightarrow 3} \frac{x^3 - 27}{x - 3} =$	☐ a $27 \ominus$	☐ b $\frac{1}{27}$	☐ c 18	☐ d does not exist

20)	$\lim_{x \rightarrow 3} \frac{x-3}{x^3-27} =$	☐ a 27	☐ b $\frac{1}{27} \ominus$	☐ c $\frac{1}{18}$	☐ d does not exist
21)	$\lim_{x \rightarrow -2} \frac{x+2}{x^3+8} =$	☐ a 12	☐ b $\frac{1}{12} \ominus$	☐ c $\frac{1}{8}$	☐ d does not exist
22)	$\lim_{x \rightarrow -2} \frac{x^3+8}{x+2} =$	☐ a 12 $\ominus$	☐ b $\frac{1}{12}$	☐ c 8	☐ d does not exist
23)	$\lim_{x \rightarrow 4} \frac{x^2-3x-4}{x-4} =$	☐ a -5	☐ b 8	☐ c 5 $\ominus$	☐ d does not exist
24)	$\lim_{x \rightarrow 3} \frac{x^2+4x-21}{x^2-8x+15} =$	☐ a -5 $\ominus$	☐ b $-\frac{1}{5}$	☐ c 5	☐ d does not exist
25)	$\lim_{x \rightarrow 0} \frac{x}{1-(1-x)^2} =$	☐ a $-\frac{1}{2}$	☐ b $\frac{1}{2} \ominus$	☐ c 0	☐ d does not exist
26)	$\lim_{x \rightarrow 2} \frac{\sqrt[3]{x+6}-2}{x-2} =$	☐ a $\frac{1}{12} \ominus$	☐ b 12	☐ c 0	☐ d does not exist
27)	$\lim_{x \rightarrow 0} \frac{\sqrt{x+25}-5}{x} =$	☐ a -10	☐ b $-\frac{1}{10}$	☐ c 10	☐ d $\frac{1}{10} \ominus$
28)	$\lim_{x \rightarrow 0} \frac{x}{\sqrt{x+25}-5} =$	☐ a -10	☐ b $-\frac{1}{10}$	☐ c 10 $\ominus$	☐ d $\frac{1}{10}$

29) $\lim_{x \rightarrow 2} \frac{x-2}{2-\sqrt{6-x}} =$ ☐ a does not exist ☐ b 0 ☐ c $\frac{1}{4}$ ☐ d $4 \ominus$
30) $\lim_{x \rightarrow 2} \frac{2-\sqrt{6-x}}{x+2} =$ ☐ a does not exist ☐ b $0 \ominus$ ☐ c $\frac{1}{4}$ ☐ d 4
31) $\lim_{x \rightarrow 3} \frac{1-\sqrt{x-2}}{2-\sqrt{x+1}} =$ ☐ a does not exist ☐ b 0 ☐ c $\frac{1}{2}$ ☐ d $2 \ominus$
32) If $2x \leq f(x) \leq 3x^2 - 8$, then $\lim_{x \rightarrow 2} f(x) =$ ☐ a does not exist ☐ b -4 ☐ c 0 ☐ d $4 \ominus$
33) $\lim_{x \rightarrow 0} x \cos(x + \frac{1}{x}) =$ ☐ a does not exist ☐ b $0 \ominus$ ☐ c ∞ ☐ d 1
34) $\lim_{x \rightarrow 0} x \sin(\frac{1}{x}) =$ ☐ a does not exist ☐ b ∞ ☐ c $0 \ominus$ ☐ d 1
35) If $\frac{x^2+1}{x-1} \leq f(x) \leq x-1$, then $\lim_{x \rightarrow 0} f(x) =$ ☐ a does not exist ☐ b $-1 \ominus$ ☐ c 0 ☐ d 1
36) If $4(x-1) \leq f(x) \leq x^3 + x - 2$, then $\lim_{x \rightarrow 1} f(x) =$ ☐ a does not exist ☐ b 1 ☐ c $0 \ominus$ ☐ d 4
37) If $\lim_{x \rightarrow 3} \frac{f(x)+4}{x-1} = 3$, then $\lim_{x \rightarrow 3} f(x) =$ ☐ a 0 ☐ b 10 ☐ c 2 ☐ d $3 \ominus$
38) $\lim_{x \rightarrow 2} \frac{2^{-1} - (3x-4)^{-1}}{2-x}$ ☐ A does not exist ☐ B -3 ☐ C $\frac{3}{2}$ ☐ D $-\frac{3}{2} \ominus$
39) $\lim_{x \rightarrow 0} \frac{(x+1)^3 - 1}{x}$ ☐ A does not exist ☐ B $3 \ominus$ ☐ C -3 ☐ D 0

40) If $\lim_{x \rightarrow 1} \frac{f(x) + 3x}{x^2 - 5f(x)} = 1$, then $\lim_{x \rightarrow 1} f(x) =$			
☐ a -1	☐ b $-\frac{1}{3}$ Θ	☐ c $-\frac{2}{3}$	☐ d 3
41) $\lim_{x \rightarrow 4} \frac{x^2 - 6x + 8}{x^2 + x - 20} =$			
☐ a does not exist	☐ b 0	☐ c $\frac{2}{9}$ Θ	☐ d 1
42) $\lim_{x \rightarrow -2} \frac{x^3 + 8}{x^2 - x - 6} =$			
☐ a does not exist	☐ b $-\frac{12}{5}$ Θ	☐ c $-\frac{8}{5}$	☐ d -12
43) $\lim_{x \rightarrow 1} \left[\frac{x^2 - 2}{x + 4} + x^2 - 2x \right] =$			
☐ a does not exist	☐ b $\frac{6}{5}$	☐ c -1	☐ d $-\frac{6}{5}$ Θ
44) $\lim_{x \rightarrow -2} \frac{4x^2 + 6x - 4}{2x^2 - 8} =$			
☐ a does not exist	☐ b 5	☐ c $\frac{5}{2}$ Θ	☐ d $-\frac{5}{2}$
45) $\lim_{x \rightarrow -1} \frac{x^2 - 2x - 3}{x^5 - x^3} =$			
☐ a does not exist	☐ b -2 Θ	☐ c 2	☐ d -4
46) $\lim_{x \rightarrow 3} \frac{\sqrt{2x + 1}(x^2 - 9)}{(2x + 3)(x - 3)} =$			
☐ a $\frac{\sqrt{7}}{9}$	☐ b $\frac{2}{3}$	☐ c $\frac{\sqrt{7}}{3}$	☐ d $\frac{2\sqrt{7}}{3}$ Θ
47) $\lim_{x \rightarrow 1} \frac{\sqrt{3 - 2x} - 1}{x - 1} =$			
☐ a -1 Θ	☐ b 1	☐ c $\frac{\sqrt{2}}{2}$	☐ d $-\sqrt{2}$
48) $\lim_{x \rightarrow 0} \frac{(x + 1)^2 - 1}{x} =$			
☐ a 0	☐ b 2 Θ	☐ c $\frac{1}{2}$	☐ d -2

49) $\lim_{x \rightarrow 1} \frac{\sqrt{2x+2}-2}{\sqrt{3x-2}-1} =$			
☐ a $-\frac{3}{2}$	☐ b $\frac{2}{3}$	☐ c $\frac{1}{3} \ominus$	☐ d $-\frac{1}{3}$
50) $\lim_{x \rightarrow 2} \frac{3-\sqrt{2x+5}}{x-2} =$			
☐ a $-\frac{1}{6}$	☐ b 3	☐ c $\frac{1}{3}$	☐ d $-\frac{1}{3} \ominus$
51) $\lim_{x \rightarrow -1} \frac{x^2+3x+2}{x^2+1} =$			
☐ a 0 $\ominus$	☐ b ∞	☐ c does not exist	☐ d -1
52) If $\lim_{x \rightarrow k} f(x) = -\frac{1}{2}$ and $\lim_{x \rightarrow k} g(x) = \frac{2}{3}$, then $\lim_{x \rightarrow k} \frac{f(x)}{g(x)} =$			
☐ a $\frac{1}{3}$	☐ b $-\frac{1}{3}$	☐ c -3	☐ d $-\frac{3}{4} \ominus$
53) $\lim_{x \rightarrow 0} \frac{\sqrt{x+4}-2}{x} =$			
☐ a 0	☐ b 1	☐ c $\frac{1}{4} \ominus$	☐ d 4
54) $\lim_{x \rightarrow -1} \frac{x^2-5x-6}{x+1} =$			
☐ a 0	☐ b 1	☐ c does not exist	☐ d $-7 \ominus$
55) $\lim_{x \rightarrow 0} \frac{(x+3)^{-1}-3^{-1}}{x} =$			
☐ A $-\frac{1}{9} \ominus$	☐ B 0	☐ C $-\frac{1}{3}$	☐ D $\frac{1}{9}$
56) If $\lim_{x \rightarrow 1} f(x) = 3$, $\lim_{x \rightarrow 1} g(x) = -4$, $\lim_{x \rightarrow 1} h(x) = -1$, then $\lim_{x \rightarrow 1} \left(\frac{5f(x)}{2g(x)} + h(x) \right) =$			
☐ a $\frac{23}{8}$	☐ b $\frac{7}{8}$	☐ c -3	☐ d $-\frac{23}{8} \ominus$
57) If $\lim_{x \rightarrow 1} g(x) = -4$ and $\lim_{x \rightarrow 1} h(x) = -1$, then $\lim_{x \rightarrow 1} \sqrt{g(x)h(x)} =$			
☐ a -2	☐ b ± 2	☐ c 2 $\ominus$	☐ d 3
58) If $\lim_{x \rightarrow 1} f(x) = 3$, $\lim_{x \rightarrow 1} g(x) = -4$, $\lim_{x \rightarrow 1} h(x) = -1$, then $\lim_{x \rightarrow 1} (2f(x)g(x)h(x)) =$			
☐ a 24 $\ominus$	☐ b 48	☐ c 12	☐ d -24

