|  |  |  |
| --- | --- | --- |
| **1.a** | Tính giới hạn\[\mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{\sqrt {{x^2} + 1} }}{{x + 2}}} \right)\] |  |
| 2.A | -1 |  |
| 2.B | 1 |  |
| 2.C | 0 |  |
| 2.D | \[\frac{1}{2}\] |  |
| 3.Đáp án | A |  |
| 4.Đáp án chi tiết | \[\mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{\sqrt {{x^2} + 1} }}{{x + 2}}} \right) = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{x\frac{{\sqrt {{x^2} + 1} }}{x}}}{{x\left( {1 + \frac{2}{x}} \right)}}} \right) = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{\frac{{\sqrt {{x^2} + 1} }}{{ - \sqrt {{x^2}} }}}}{{1 + \frac{2}{x}}}} \right) = \mathop {\lim }\limits\_{x \to - \infty } \left( { - \frac{{\sqrt {1 + \frac{1}{{{x^2}}}} }}{{1 + \frac{2}{x}}}} \right) = - 1\] |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.b** | Kết quả của\[\mathop {\lim }\limits\_{x \to - \infty } (\sqrt {{x^2} + x} + x)\] |  |
| 2.A | \[ - \infty \] |  |
| 2.B | \[ + \infty \] |  |
| 2.C | \[\frac{1}{2}\] |  |
| 2.D | \[ - \frac{1}{2}\] |  |
| 3.Đáp án | D |  |
| 4.Đáp án chi tiết | \[\mathop {\lim }\limits\_{x \to - \infty } (\sqrt {{x^2} + x} + x) = \mathop {\lim }\limits\_{x \to - \infty } \left[ {\frac{{\left( {\sqrt {{x^2} + x} + x} \right)\left( {\sqrt {{x^2} + x} - x} \right)}}{{\sqrt {{x^2} + x} - x}}} \right] = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{{x^2} + x - {x^2}}}{{\sqrt {{x^2} + x} - x}}} \right) = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{x}{{\sqrt {{x^2} + x} - x}}} \right)\]\[ = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{x}{{x\left( {\frac{{\sqrt {{x^2} + x} }}{x} - 1} \right)}}} \right) = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{1}{{\left( {\frac{{\sqrt {{x^2} + x} }}{{ - \sqrt {{x^2}} }} - 1} \right)}}} \right) = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{1}{{ - \sqrt {1 + \frac{1}{x}} - 1}}} \right) = \frac{{ - 1}}{2}\] |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.c** | \[\mathop {\lim }\limits\_{x \to - \infty } \left( {x + 1} \right)\sqrt {\frac{{2x + 1}}{{{x^3} + x + 2}}} \]có kết quả bằng: |  |
| 2.A | \[ - \sqrt 2 \] |  |
| 2.B | \[\sqrt 2 \] |  |
| 2.C | \[ - \infty \] |  |
| 2.D | 0 |  |
| 3.Đáp án | A |  |
| 4.Đáp án chi tiết | \[\mathop {\lim }\limits\_{x \to - \infty } \left( {x + 1} \right)\sqrt {\frac{{2x + 1}}{{{x^3} + x + 2}}} = \mathop {\lim }\limits\_{x \to - \infty } - \sqrt {\frac{{(2x + 1){{(x + 1)}^2}}}{{{x^3} + x + 2}}} = \mathop {\lim }\limits\_{x \to - \infty } - \sqrt {\frac{{{x^3}\left( {\frac{{2x + 1}}{x}} \right)\frac{{{{\left( {x + 1} \right)}^2}}}{{{x^2}}}}}{{{x^3}\left( {1 + \frac{1}{{{x^2}}} + \frac{2}{{{x^3}}}} \right)}}} \]\[ = \mathop {\lim }\limits\_{x \to - \infty } - \sqrt {\frac{{\left( {2 + \frac{1}{x}} \right){{\left( {1 + \frac{1}{x}} \right)}^2}}}{{\left( {1 + \frac{1}{{{x^2}}} + \frac{2}{{{x^3}}}} \right)}}} = - \sqrt 2 \] |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.d** | \[ = \lim \frac{{ - n - \frac{2}{n}}}{{1 + \sqrt {2 + \frac{2}{{{n^2}}}} }} = - \infty \]=? |  |
| 2.A | \[ - \frac{1}{4}\] |  |
| 2.B | 25 |  |
| 2.C | 5 |  |
| 2.D | \[ - \frac{1}{3}\] |  |
| 3.Đáp án | C |  |
| 4.Đáp án chi tiết | \[\mathop {\lim }\limits\_{x \to + \infty } \left( {\frac{{{5^{x + 2}} - {3^x} + 1}}{{{5^{x + 1}} + {3^{x + 1}} - 4}}} \right) = \mathop {\lim }\limits\_{x \to + \infty } \left( {\frac{{25 - {{\left( {\frac{3}{5}} \right)}^x} + \frac{1}{{{5^x}}}}}{{5 + 3.{{\left( {\frac{3}{5}} \right)}^x} - 4.\frac{1}{{{5^x}}}}}} \right) = 5\] |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.e** | Tính\[\mathop {\lim }\limits\_{x \to + \infty } \left( {{{23.2}^x} + {3^{x + 1}} - 1} \right)\] |  |
| 2.A | -1 |  |
| 2.B | \[ + \infty \] |  |
| 2.C | \[ - \infty \] |  |
| 2.D | 3 |  |
| 3.Đáp án | B |  |
| 4.Đáp án chi tiết | \[\mathop {\lim }\limits\_{x \to + \infty } \left( {{{23.2}^x} + {3^{x + 1}} - 1} \right) = + \infty + \infty - 1 = + \infty \] |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.f** | \[\mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{x + 1}}{{\sqrt {2{x^2} + 1} - x\sqrt 2 }}} \right)\]có kết quả là: |  |
| 2.A | 1 |  |
| 2.B | \[ - \frac{1}{{2\sqrt 2 }}\] |  |
| 2.C | \[2\sqrt 2 \] |  |
| 2.D | \[ - \frac{1}{{\sqrt 2 }}\] |  |
| 3.Đáp án | B |  |
| 4.Đáp án chi tiết | \[\mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{x + 1}}{{\sqrt {2{x^2} + 1} - x\sqrt 2 }}} \right) = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{x\left( {1 + \frac{1}{x}} \right)}}{{x\left( { - \sqrt {2 + \frac{1}{{{x^2}}}} - \sqrt 2 } \right)}}} \right) = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{1 + \frac{1}{x}}}{{ - \sqrt {2 + \frac{1}{{{x^2}}}} - \sqrt 2 }}} \right) = \frac{{ - 1}}{{2\sqrt 2 }}\] |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.g** | Kết quả của giới hạn\[\mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{\left( {2x - 1} \right)\sqrt {{x^2} - 3} }}{{x - 5{x^2}}}} \right)\] là: |  |
| 2.A | \[\frac{2}{5}\] |  |
| 2.B | \[ - \frac{2}{5}\] |  |
| 2.C | \[\sqrt 3 \] |  |
| 2.D | -1 |  |
| 3.Đáp án | A |  |
| 4.Đáp án chi tiết | \[\mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{\left( {2x - 1} \right)\sqrt {{x^2} - 3} }}{{x - 5{x^2}}}} \right)\]\[ = \mathop {\lim }\limits\_{x \to - \infty } \left( {\frac{{ - \left( {2 - \frac{1}{x}} \right)\sqrt {1 - \frac{3}{{{x^2}}}} }}{{\frac{1}{x} - 5}}} \right) = \frac{2}{5}\] |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.h** |  |  |
| 2.A |  |  |
| 2.B |  |  |
| 2.C |  |  |
| 2.D |  |  |
| 3.Đáp án |  |  |
| 4.Đáp án chi tiết |  |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.i** |  |  |
| 2.A |  |  |
| 2.B |  |  |
| 2.C |  |  |
| 2.D |  |  |
| 3.Đáp án |  |  |
| 4.Đáp án chi tiết |  |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |
| **1.j** |  |  |
| 2.A |  |  |
| 2.B |  |  |
| 2.C |  |  |
| 2.D |  |  |
| 3.Đáp án |  |  |
| 4.Đáp án chi tiết |  |  |
| 5.Level |  |  |
| 6.Ghi chú |  |  |