

## Limits

$$1. \lim_{x \rightarrow -2} (3x^3 - 2x + 7)$$

$$2. \lim_{x \rightarrow 4} (5x^2 - 9x - 8)$$

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

$$4. \lim_{x \rightarrow -3} (3x + 4)(7x - 9)$$

$$5. \lim_{x \rightarrow 4} \sqrt[3]{x^2 - 5x - 4}$$

$$6. \lim_{x \rightarrow -2} \sqrt{x^4 - 4x + 1}$$

$$7. \lim_{x \rightarrow \frac{1}{2}} \frac{4x^2 - 6x + 3}{16x^3 + 8x - 7}$$

$$8. \lim_{x \rightarrow 15} \sqrt{2}$$

$$9. \lim_{x \rightarrow 3} \frac{x + 3}{\frac{1}{x} + \frac{1}{3}}$$

$$10. \lim_{x \rightarrow 2} \frac{x - 2}{x^3 - 8}$$

$$11. \lim_{x \rightarrow 2} \frac{x^2 - x - 2}{(x - 2)^2}$$

$$12. \lim_{x \rightarrow 16} \frac{x - 16}{\sqrt{x} - 4}$$

$$13. \lim_{x \rightarrow -2} \frac{x^3 + 8}{x^4 - 16}$$

$$14. \lim_{x \rightarrow 1} \left( \frac{x^2}{x - 1} - \frac{1}{x - 1} \right)$$

$$15. \lim_{x \rightarrow 16} \frac{2\sqrt{x} + x^{3/2}}{\sqrt[4]{x} + 5}$$

$$16. \lim_{x \rightarrow -8} \frac{16x^{2/3}}{4 - x^{4/3}}$$

$$17. \lim_{h \rightarrow 0} \frac{4 - \sqrt{16 + h}}{h}$$

$$18. \lim_{h \rightarrow 0} \left( \frac{1}{h} \right) \left( \frac{1}{\sqrt{1 + h}} - 1 \right)$$

$$19. \lim_{x \rightarrow 1} \frac{(x - 1)^5}{x^5 - 1}$$

$$20. \lim_{x \rightarrow -1} \frac{(4x^2 + 5x - 3)^3}{(6x + 4)^4}$$

$$21. \lim_{x \rightarrow 9} \frac{x^2 - 81}{3 - \sqrt{x}}$$

$$22. \lim_{x \rightarrow 8} \frac{x - 8}{\sqrt[3]{x} - 2}$$