

$$\lim_{x \rightarrow 20} 12 = 12$$

$$\lim_{x \rightarrow -2} (3x+5)(2x) = (3(-2)+5)(2(-2)) = (-6+5)(-4) \\ = (-1)(-4) = \underline{4}$$

$$\lim_{x \rightarrow -8} (5x^3 + 3x^2 + x + 7)(x^2 + 10) = (5(-8)^3 + 3(-8)^2 + (-8) + 7)((-8)^2 + 10) \\ = (5(-512) + 3(64) - 8 + 7)(64 + 10) \\ = (-2,560 + 192 - 8 + 7)(74) \\ = (-2,369)(74) = \underline{175,306}$$

$$\lim_{x \rightarrow 7} (3x+5) = (3(7)+5) = 21+5 = \underline{26}$$

$$\lim_{x \rightarrow 2} \frac{2x^2 + 3x}{x^2 - 5} = \frac{(2(2))^2 + 3(2)}{(2)^2 - 5} = \frac{2(4) + 6}{4 - 5} = \frac{8 + 6}{1} = \frac{14}{1} = 14$$

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

$$\lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3} = \frac{(x+3)(x-3)}{x-3} = (x+3) = 3+3 = 6$$

$$\lim_{x \rightarrow 5} \frac{x-5}{x^2-25} = \frac{(x-5)}{(x+5)(x-5)} = \frac{1}{x+5} = \frac{1}{5+5} = \frac{1}{10}$$

$$\lim_{x \rightarrow -4} \frac{x+4}{(x^2-16)} = \frac{(x+4)}{(x+4)(x-4)} = \frac{1}{(x-4)} = \frac{1}{-4-4} = \frac{1}{-8} = -\frac{1}{8}$$

$$\lim_{x \rightarrow 8} \frac{x-8}{(x^2-64)} = \frac{(x-8)}{(x+8)(x-8)} = \frac{1}{(x+8)} = \frac{1}{8+8} = \frac{1}{16}$$

$$\lim_{x \rightarrow -3} \frac{x^2 + 2x - 15}{x + 3} = \frac{(-3)^2 + 2(-3) - 15}{-3 + 3} = \frac{9 + (-6) - 15}{0}$$
$$= \frac{9 - 6 - 15}{0} = \frac{9 - 21}{0} = \frac{12}{0}$$

$$\lim_{x \rightarrow 0} \frac{x^2 - 2x}{x} = 0$$