Squeeze Theorem

Use the Squeeze Theorem to find the following limits if possible. If the Squeeze Theorem is not applicable, state why.

1. $\lim\limits_{x \to 3/2} f(x)$ given that $-3x^2 + 9x - 4 \le f(x) \le x^2 - 3x + 5$ for all x

2. $\lim\limits_{x \to 2} f(x)$ given that $(x-2)^3 + x \le f(x) \le x^2 - 2x + 3$

3. $\lim\limits_{x \to \infty} \dfrac{2xf(x)}{3}$ given that $\dfrac{3x}{6x^2 + 2} \le f(x) \le \dfrac{4x}{8x^2 - 3}$ for all $x > 10$

4. $\lim\limits_{x \to -1} \dfrac{x^2 - 1}{x^2 + 3x + 2}$ given that $\ln(x+2) - 3 \le f(x) \le (x+1)^2 - 1$ for x near -1

5. $\lim\limits_{x \to \infty} \dfrac{x + 2\sin 4x}{3x}$