Extra Examples of Limits-Math 11

Evaluate the following limits. Justify your answers. Be clear if the limit equals $+\infty, -\infty$ or DNE:

1. $\lim\limits_{x \to 2} \dfrac{x+7}{x^2 - 3x + 2} =$

2. $\lim\limits_{x \to 1} \dfrac{x+7}{x^2 - 3x + 2} =$

3. $\lim\limits_{x \to 0} \dfrac{x+7}{x^2 - 3x + 2} =$

4. $\lim\limits_{x \to -7} \dfrac{x+7}{x^2 + x + 1} =$

5. $\lim\limits_{x \to -7} \dfrac{x+7}{x^2 + 2x - 35} =$

6. $\lim\limits_{x \to 7} \dfrac{x+7}{x - 7} =$

7. $\lim\limits_{x \to 2} \dfrac{\sqrt{x+7} - 3}{x^2 - 3x + 2} =$

8. $\lim\limits_{x \to 7} \dfrac{x+7}{|x - 7|} =$

9. $\lim\limits_{x \to -6} \dfrac{x+7}{|x - 7|} =$

10. $\lim\limits_{x \to -7} \dfrac{\dfrac{1}{1-x} - \dfrac{1}{8}}{x + 7} =$

11. $\lim\limits_{x \to 10} \dfrac{x+7}{|x - 7|} =$

12. $\lim\limits_{x \to 7} \dfrac{x^2 - 16x + 63}{x^2 - 14x + 49} =$

13. $\lim\limits_{x \to 7} \dfrac{3 - x}{7 - x} =$

14. $\lim\limits_{x \to 7} \dfrac{3 - x}{(x - 7)^2} =$

15. $\lim\limits_{x \to 7} \dfrac{x^2 - 16x + 63}{x^2 - 49} =$

16. $\lim\limits_{x \to 7} \dfrac{7 - x}{\sqrt{x + 42} - 7} =$

17. $\lim\limits_{x \to 7} \dfrac{x - 7}{|x - 7|} =$