Section 2.4(Hints)

3. Since $|\sqrt{x}-2|<0.4 \Leftrightarrow -1.44<x-4<1.76$, so we can choose δ such that $|x-4|<\delta$ implies $-1.44<x-4<1.76$.

4. Since $|x^2-1|<\frac{1}{2} \Leftrightarrow \frac{\sqrt{2}}{2}-1<x-1<\frac{\sqrt{6}}{2}-1$, so we can choose δ such that $|x-1|<\delta$ implies $\frac{\sqrt{2}}{2}-1<x-1<\frac{\sqrt{6}}{2}-1$.

19. Since $|\frac{x}{5}-\frac{3}{5}|=\frac{|x-3|}{5}$, so let $\delta=5\epsilon$.

20. Since $|(\frac{x}{4}+3)-\frac{9}{2}|=\frac{|x-6|}{4}$, so let $\delta=4\epsilon$.

21. Since $|(4-\frac{3x}{5})-7|=\frac{3|x+5|}{5}$, so let $\delta=\frac{5}{3}\epsilon$.

22. Since $|\frac{x^2+x-12}{x-3}-7|=|(x+4)-7|=|x-3|$, so let $\delta=\epsilon$.

23. Let $\delta=\epsilon$.

24. Let $\delta=1$.

25. Since $|x^2-0|=|x|^2$, so let $\delta=\sqrt{\epsilon}$.

33. $|x^2-9|=|x+3||x-3|$ and $|x+3|\leq|x-3|+6$.

41. $\frac{1}{(x+3)^4}>10000 \Leftrightarrow |x+3|<0.1$.

42. Let $\delta=\frac{1}{\sqrt[4]{M}}>0$.