

Fill in the Blanks

Newton-Raphson Method

Give all values to 4 decimal places.

| $f(x)$ | x_0 | $f'(x)$ | $f(x_0)$ | $f'(x_0)$ | x_1 | $f(x_1)$ | $f'(x_1)$ | x_2 |
|--------------------------|-------|----------------------|----------|-----------|-------|----------|-----------|-------|
| $x^3 - x^2 - 2$ | 2 | $3x^2 - 2x$ | 2 | 8 | 1.75 | 0.2969 | 5.6875 | |
| $x^2 + \frac{3}{x}$ | -2 | $2x - \frac{3}{x^2}$ | 2.5 | -4.75 | | | | |
| $x - \frac{3}{\sqrt{x}}$ | 1 | | | | | | | |
| $3x^2 + \ln x$ | 1.5 | | | | | | | |
| $x + 5 + \sin x$ | -6 | | | | | | | |
| $x^2 \sin x - 1$ | 1.2 | | | | | | | |
| $\frac{5\cos x}{x}$ | 7.7 | | | | | | | |
| $2 + \sec^3 x$ | 2.4 | | | | | | | |