HW QUESTIONS

3.3 Even — y symmetry
\[ f(-x) = f(x) \]

Odd — origin symmetry
\[ f(-x) = -f(x) \]

Neither

Ex:
\[ f(x) = x^4 + x^3 \]
\[ f(-x) = (-x)^4 + (-x)^3 \text{ (unchanged)} \]
\[ = x^4 - x^3 \]
\[ "neither category" \]

3.2 #25

\[ f(x) = \frac{x + 2}{x - 6} \]

a) \( (3, 14) \) is this a solution?

\[ f(3) = \frac{3 + 2}{3 - 6} = \frac{5}{-3} \] (NO)

e) X-intercepts (y = 0)

\[ 0 = \frac{x + 2}{x - 6} \]
\[ x = -2 \] (denominator isn’t useful here, can be multiplied by the LCD x - 6)

f) Y-intercepts (x = 0)

\[ f(0) = \frac{0 + 2}{0 - 6} = \frac{2}{-6} = -\frac{1}{3} \]