

Review EUA

Factor each completely.

1) $n^2 + 10n + 25$

2) $x^4 - 4$

3) $5b^3 + 6b^2 + 15b + 18$

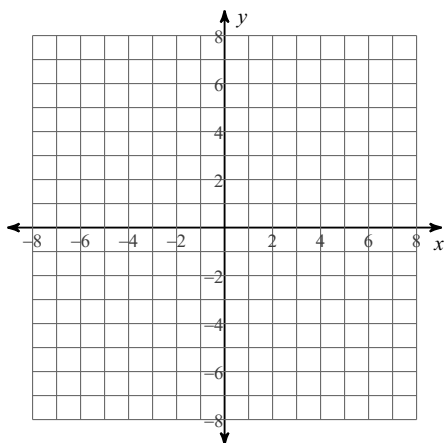
4) $8x^3 - 125$

5) $2m^4 + m^2 - 6$

6) $5u^4 + u^2$

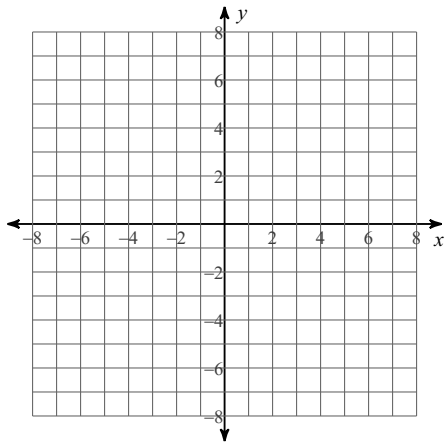
Sketch the graph and identify the x-intercepts.

7) $f(x) = \frac{x^3 - 3x^2 - 4x}{-3x^2 + 3x}$



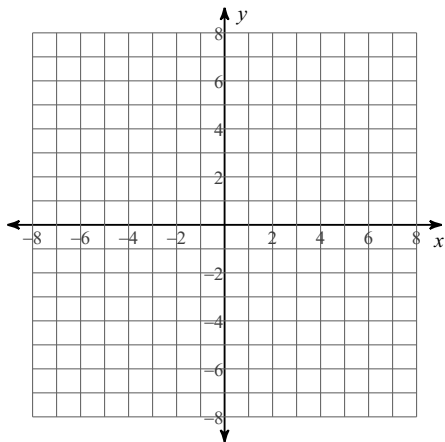
Sketch the graph and identify the vertical asymptotes.

$$8) f(x) = \frac{2x^3 + 4x^2}{x^3 + x^2 - 6x}$$



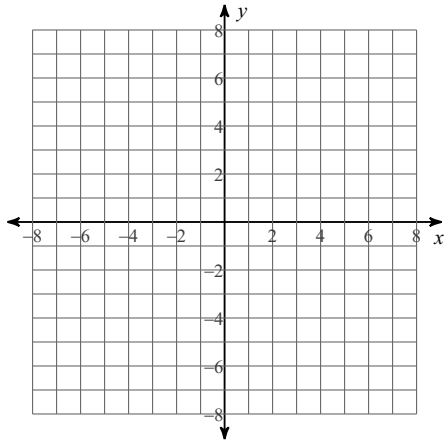
Sketch the graph and identify the horizontal asymptotes.

$$9) f(x) = \frac{-x - 2}{x + 1}$$



Sketch the graph and identify the end behavior.

$$10) f(x) = \frac{-2x^3 - 8x^2}{x^3 - 16x}$$



Simplify each expression.

$$11) \frac{2x^3 + 8x^2}{2x^2} \cdot \frac{x-3}{x+4}$$

$$12) \frac{1}{v-4} \div \frac{3v^2(v+5)}{(v+2)(v-4)}$$

$$13) \frac{3m}{4} + \frac{3m}{4m^2}$$

$$14) \frac{4k}{2k(k+3)} - \frac{k+4}{2k(k+3)}$$