

Fill in the Blanks

Graphical Inequalities and Regions

| $f(x)$ and $g(x)$ | Sketch of $y = f(x)$ and $y = g(x)$ | Coordinates of intersection(s) | Solutions to $f(x) \geq g(x)$ | Shade the region given by: |
|--|-------------------------------------|--------------------------------|-------------------------------|---|
| $f(x) = 3x + 1$ $g(x) = 5 - x$ | | | | $y \geq 3x + 1$ $y \leq 5 - x$ and $x \geq 0$ |
| $f(x) = 2x - \frac{1}{2}$ $g(x) = \frac{1}{3}x + 2$ | | | | $y \geq 2x - \frac{1}{2}$ $y \leq \frac{1}{3}x + 2$ $x \geq 0$ and $y \geq 0$ |
| $f(x) = x^2$ $g(x) = x + 6$ | | | | $y \geq x^2$ and $y \leq x + 6$ |
| $f(x) = 1 - x^2$ $g(x) = x - 1$ | | | | $y \leq 1 - x^2$ and $y \leq x - 1$ |
| $f(x) = 4 - 2x$ $g(x) = x^2 + x - 6$ | | | | $y \leq 4 - 2x$ and $y \leq x^2 + x - 6$ |
| $f(x) = 4 - x^2$ $g(x) = 2x^2 + 4x$ | | | | $y \leq 4 - x^2$ and $y \geq 2x^2 + 4x$ |