

Activity from the Textbook: Techniques of Solving

Homework/Formative Assessment

CHECK Your Understanding

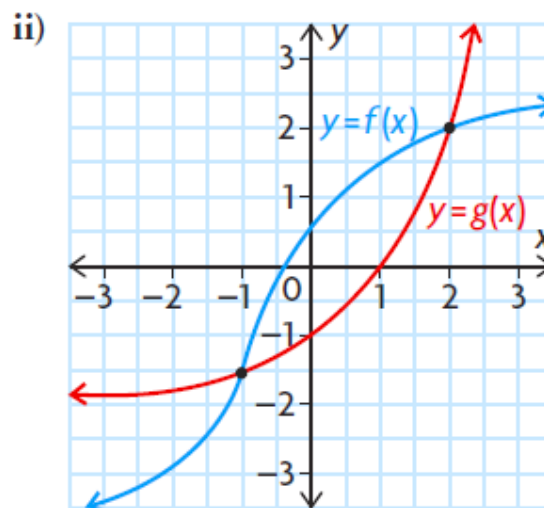
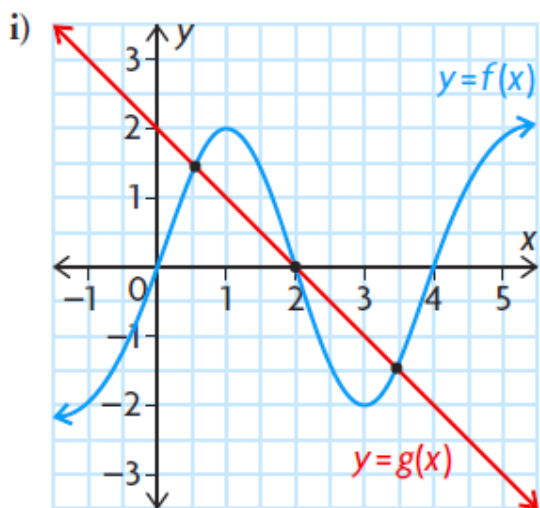
1. For each graph shown below, state the solution to each of the following:

a) $f(x) = g(x)$

b) $f(x) > g(x)$

c) $f(x) \leq g(x)$

d) $f(x) \geq g(x)$



2. Use a guess and improvement strategy to determine the best one-decimal-place approximation to the solution of each equation in the interval provided.

a) $3 = 2^{2x}$, when $x \in [0, 2]$

b) $0 = \sin(0.25x^2)$, when $x \in [0, 5]$

c) $3x = 0.5x^3$, when $x \in [-8, -1]$

d) $\cos x = x$, when $x \in \left[0, \frac{\pi}{2}\right]$

ANSWERS

1. a) i) $x = \frac{1}{2}, 2, \text{ or } \frac{7}{2}$
ii) $x = -1 \text{ or } 2$
- b) i) $\frac{1}{2} < x < 2 \text{ or } x > \frac{7}{2}$
ii) $-1 < x < 2$
- c) i) $x \leq \frac{1}{2}, 2 \leq x \leq \frac{7}{2}$
ii) $x \leq -1 \text{ or } x \geq 2$
- d) i) $\frac{1}{2} \leq x \leq 2 \text{ or } x \geq \frac{7}{2}$
ii) $-1 \leq x \leq 2$
2. a) $x \doteq 0.8$
b) $x = 0 \text{ and } 3.5$
c) $x \doteq -2.4$
d) $x \doteq 0.7$