1. This equation is an identity and is true for all real values of x.

2. at least 4 but less than 4.5 hours (4.25 hours)

3. $0.03x + 0.025(120{,}000 - x) = 3200$

4. $x = -1/2, 3$

5. $x = \dfrac{-5 \pm \sqrt{41}}{2}$

6. 5 seconds

7. $-6 + 17i$

8. $-i$

9. $m = -6, -1, 1, 6$

10. $\left(-\infty, -\dfrac{48}{11}\right)$

11. $\left(-\infty, -10\right] \cup \left[4, \infty\right)$

12. $(1,4)$

13. $7\sqrt{2}$

14. $m = -1$

15. $y = -120x + 1050$