**Solve the inequality, and express the solutions in terms of intervals whenever possible.**

1. (x+2)(x-1)(4-x) ≤ 0 2. x2 – x – 6 < 0 3. x(2x + 3) ≥ 5

 4. x + 12 ≤ x2 5. 25x2 – 9 < 0 6. 16x2 > 9

 7. x3 + 2x2 – 4x – 8 ≥ 0 8. $\frac{(x^{2}+1)(x-3)}{x^{2}-9}\geq 0$ 9. $\frac{(x+5)}{x^{2}-7x+12}\leq 0$

10. 16x2 ≥ 9x 11. x4 + 5x2 ≥ 36 12. $\frac{2x}{16-x^{2}}$ < 0

13. Guiness Book of World Records reports that German Shepherds can make vertical leaps of over 10 feet when scaling walls. If the distance s (in feet) off the ground after t seconds is given by the equation s = -16t2 + 24t + 1, for how many seconds is the dog more than 9 feet off the ground?

14. If an object is projected vertically upward from ground level with an initial velocity of 320 ft/sec, then its distance s above the ground after t seconds is given by s = -16t2 + 320t. For what values of t will the object be more than 1536 feet above the ground?