**TOPIC EXERCISES**

**PART A: SOLVING POLYNOMIAL INEQUALITIES**

**Solve. Present answers using interval notation.**

* 1. x(x+1)(x−3)>0
  2. x(x−1)(x+4)<0
  3. (x+2)(x−5)2<0
  4. (x−4)(x+1)2≥0
  5. (2x−1)(x+3)(x+2)≤0
  6. (3x+2)(x−4)(x−5)≥0
  7. x(x+2)(x−5)2<0
  8. x(2x−5)(x−1)2>0
  9. x(4x+3)(x−1)2≥0
  10. (x−1)(x+1)(x−4)2<0
  11. (x+5)(x−10)(x−5)2≥0
  12. (3x−1)(x−2)(x+2)2≤0
  13. −4x(4x+9)(x−8)2>0
  14. −x(x−10)(x+7)2>0

**Solve.**

* 1. x3+2x2−24x≥0
  2. x3−3x2−18x≤0
  3. 4x3−22x2−12x<0
  4. 9x3+30x2−24x>0
  5. 12x4+44x3>80x2
  6. 6x4+12x3<48x2
  7. x(x2+25)<10x2
  8. x3>12x(x−3)
  9. x4−5x2+4≤0
  10. x4−13x2+36≥0
  11. x4>3x2+4
  12. 4x4<3−11x2
  13. 9x3−3x2−81x+27≤0
  14. 2x3+x2−50x−25≥0
  15. x3−3x2+9x−27>0
  16. 3x3+5x2+12x+20<0