

**SHOW ALL WORK!**

1. Find the factors of 70. Then classify 70 as *prime* or *composite*. 1. \_\_\_\_\_

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2. Factor the polynomial  $36d^3e^2 - 48d^2e^2$  2. \_\_\_\_\_

3. Factor the polynomial  $x^3y - 12x^2y^2 + 4xy^3$  3. \_\_\_\_\_

4. Solve  $(5x+1)(x-4) = 0$  4. \_\_\_\_\_

5. The height  $h$  of a ball thrown upward at a speed of 24 feet per second can be modeled by  $h = 24t - 16t^2$ , where  $t$  is time in seconds. How long can this ball remain in the air before bouncing? 5. \_\_\_\_\_

6. Factor the trinomial  $a^2 + 7m - 30$  6. \_\_\_\_\_

7. Solve the equation  $y^2 + 3y - 54 = 0$  7. \_\_\_\_\_

8. Solve the equation  $n^2 + 7n = -6$  8. \_\_\_\_\_

9. Factor  $x^2 - 121$  if possible. If it cannot be factored, write prime. 9. \_\_\_\_\_

10. Solve  $4x^2 - 49 = 0$  by factoring. 10. \_\_\_\_\_

11. Solve  $25x^3 - 9x = 0$  by factoring. 11. \_\_\_\_\_