Isolating Unknown Variables

Name:_____

Using algebra, rearrange the following equations to isolate the unknown variable in terms of the other variables. Start by circling the unknown variable and show all your work!

Examples:

"d": $\boldsymbol{v = \frac{d}{t}}$ ***Answer:*** $\boldsymbol{d = v * t}$

"t": $\boldsymbol{v = \frac{d}{t}}$ ***Answer:*** $\boldsymbol{t = \frac{d}{v}}$

1. **Δv:** $a = \frac{\Delta v}{t}$

2. **t:** $a = \frac{\Delta v}{t}$

3. $\boldsymbol{v_i}$**:** $v_f = v_i + at$

4. **t:** $v_f = v_i + at$

5. **a:** $v_f = v_i + at$

6. **a:** $d = \frac{1}{2}at^2$

7. **t:** $d = \frac{1}{2}at^2$

8. $\boldsymbol{v_f}$**:** ${v_f}^2 = {v_i}^2 + 2ad$

9. $\boldsymbol{v_i}$**:** $v_f{}^2 = v_i{}^2 + 2ad$

10. **a:** $v_f{}^2 = v_i{}^2 + 2ad$

11. **d:** $v_f{}^2 = v_i{}^2 + 2ad$