

**Simplify each radical. NO DECIMALS!**

1.  $\sqrt{28}$

2.  $\sqrt{60}$

3.  $\sqrt{99}$

4.  $\sqrt{112}$

5.  $\sqrt{80}$

6.  $\sqrt{108}$

7.  $\sqrt{500}$

8.  $\sqrt{252}$

**Simplify each expression. NO DECIMALS!**

9.  $3\sqrt{5} \cdot \sqrt{5}$

10.  $\sqrt{50} \cdot \sqrt{2}$

11.  $4\sqrt{5} \cdot \sqrt{60}$

12.  $\sqrt{8} \cdot 9\sqrt{3}$

13.  $7\sqrt{5} \cdot 4\sqrt{30}$

14.  $2\sqrt{6} \cdot 9\sqrt{2}$

**Simplify each expression. NO DECIMALS!**

15.  $\sqrt{\frac{121}{4}}$

16.  $\sqrt{\frac{3}{25}}$

17.  $\frac{\sqrt{5}}{\sqrt{7}}$

**Solve the equation. NO DECIMALS!**

18.  $-4x^2 = -280$

19.  $3x^2 - 150 = 282$

20.  $2(x^2 + 9) = 32$

**21. Application**

An object dropped from the top of 300 ft building can be modeled by the **equation  $h = -16t^2 + 300$** , where h=height and t=time in seconds

How long will it take for the object to hit the ground?

**(hint: the height of ground is 0 ft)**