Name_____**Date**_____**Period**_____

Review– Radicals –Part 2

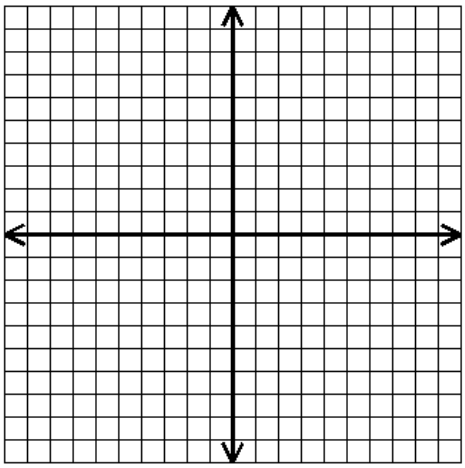
Review.

1. The function $y = 112 + 89x – 16x^2$ represents the path of a ball thrown upward, where y is the height of the ball in feet and x is the time in seconds. At what time will the ball be at a height of 70 feet?(show a sketch and label)

2. Solve the system by graphing.

$y = x – 2$

$y = \frac{2}{3}x - 3$



3. What are the roots of the quadratic equation $x^2 + 7x – 18 = 0$?

4. Find the 3 missing numbers of the sequence.

$$\frac{1}{12}, \frac{1}{6}, \frac{1}{4}, \frac{5}{12}, \frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{11}{12}$$

5. What is the slope of the line identified by $4y = -5(x + 8)$?

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6. What are the coordinates of the x-intercept of the equation $15y = 18 - 3x$?

7. A rectangle has an area of 90 square inches and a perimeter of 42 inches. What are the dimensions of the rectangle?

Simplify.

8. $\sqrt[5]{8a^2b} \bullet \sqrt[5]{4a^8b^9}$

_____

9. $\dfrac{\sqrt[3]{-54x^8}}{\sqrt[3]{2x^2}}$

_____

10. $\sqrt[4]{48m^6n^9}$

_____

11. $\sqrt{\dfrac{7}{10}}$

_____

Rewrite the expression using rational exponents.

12. $\sqrt[4]{9^3}$ =_____

Rewrite the expression using radical notation.

13. $(8)^{1/7}$ =_____

Evaluate.

14. $125^{-2/3}$ =_____

15. $16^{3/4}$ =_____

16. $64^{-1/2}$ =_____

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Use the laws of exponents to simplify each expression. Write all answers with positive exponents.

17. $\left(25x^4y^6\right)^{3/2}$

_____

18. $\dfrac{-7c^{2/5}}{21c^{3/5}}$

_____

19. $4^{7/3} \bullet 4^{2/3}$

_____

Solve each equation and check for extraneous solutions. SHOW WORK!!!

20. $\sqrt{2x+10} = x+1$

_____

21. $\sqrt[3]{2x-3} + 2 = 4$

_____

22. $(x+1)^{3/2} - 44 = 20$

_____

Answers in random order:

x = 3; 15in. by 6 in; $\frac{\sqrt{70}}{10}$; 64; 8; x = 15;

$\frac{1}{3}, \frac{7}{12}, \frac{5}{6}$; x = $\frac{11}{2}$; $\frac{-5}{4}$; (-3, -5); $125x^6y^9$;

$2mn^2\sqrt[4]{3m^2n}$; $\sqrt[7]{8}$; $\frac{-1}{3c^{1/5}}$; $\frac{1}{25}$; $\frac{1}{8}$; (6, 0);

$-3x^2$; $9^{3/4}$; -9 and 2; $2a^2b^2$; 6 sec