9. Solve $\sqrt{3x-2}+4=8$.

A) 12 B) 6 C) $\frac{2}{3}$ D) $\frac{3}{2}$

10. Solve $\sqrt{7a+32}=a+2$

A) –4 B) 7 C) –4, 7 D) –7, 4

11. Which is the solution of $\frac{x+1}{5}=\frac{2x}{15}$?

A) $-\frac{3}{5}$ B) $\frac{3}{5}$ C) -3 D) $-\frac{1}{5}$

12. Solve $\frac{5x}{3x+1}-\frac{10}{3x+1}=\frac{8}{5}$.

A) 58 B) $-\frac{18}{19}$ C) $\frac{18}{5}$ D) $-\frac{18}{5}$

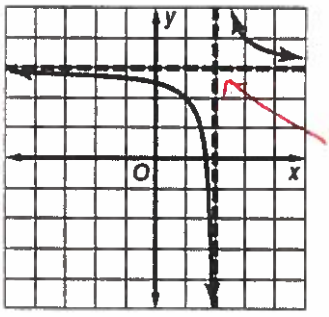
13. Which value is an extraneous solution of $\frac{x}{x+1}-\frac{6}{x^2-4x-5}=1$?

A) 5 B) 0 C) –1 D) 6

14. Given the rational equation $\frac{3}{2x+8}-\frac{1}{x+4}=\frac{5}{2}$, which polynomial would you multiply by to eliminate the denominators?

A) 2 B) $x+4$ C) $2x+4$ D) $2x+8$

15. Which function is graphed?



A) $y=\frac{1}{x+2}+3$ C) $y=\frac{1}{x-2}-3$

B) $y=\frac{1}{x+2}-3$ D) $y=\frac{1}{x-2}+3$

16. The velocity V of an object that has fallen d meters can be found using the equation $V=\sqrt{2gd}$, where g represents the gravitational constant and is equal to 9.81 m/s^2. Determine how fast a penny would be traveling when it hits the ground below after being dropped off the Willis Tower, which has a height of 520 meters.

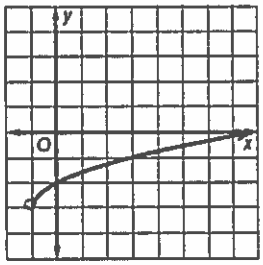
A) 101 m/s B) 7214.2 m/s C) 10202.4 m/s D) 71.4 m/s

Algebra 1 **Unit 7 Multiple Choice Review** **Name:** KEY

1. How does the graph of $y = \sqrt{x + 3}$ compare to the parent graph?
   A) translated up 3
   B) translated down 3
   C) translated right 3
   D) translated left 3

2. Which expression has a domain of $\{x \geq 2\}$?
   A) $y = \sqrt{x} + 2$ B) $y = \sqrt{x} - 2$ C) $y = \sqrt{x + 2}$ D) $y = \sqrt{x - 2}$

3. What is the equation of the graph?



A) $y = \sqrt{x+1} - 3$ C) $y = \sqrt{x-1} + 3$
B) $y = \sqrt{x-1} - 3$ D) $\sqrt{x+1} + 3$

For questions 4 – 8, simplify each expression.

4. $8\sqrt{2} - 4\sqrt{2}$
   A) 8 B) 16 C) $7\sqrt{2}$ D) $-8\sqrt{2}$

5. $\sqrt{18} - \sqrt{54} + 2\sqrt{50}$ $= 3\sqrt{2} - 3\sqrt{6} + 2[5\sqrt{2}] = 3\sqrt{2} - 3\sqrt{6} + 10\sqrt{2}$ $13\sqrt{2} - 3\sqrt{6}$
   A) $13\sqrt{2} - 3\sqrt{6}$ B) $-4\sqrt{3} + 4\sqrt{5}$ C) $-4\sqrt{3} - 4\sqrt{5}$ D) $8\sqrt{2} - 3\sqrt{6}$

6. $\sqrt{3}(5\sqrt{3} - \sqrt{6})$ $5\sqrt{9} - \sqrt{18} = 5(3) - 3\sqrt{2} = 15 - 3\sqrt{2}$
   A) $5\sqrt{9} - \sqrt{18}$ B) $15 - 3\sqrt{2}$ C) $8 - 3\sqrt{2}$ D) $15 - 2\sqrt{3}$

7. $(2 - 6\sqrt{7})^2$ $(2 - 6\sqrt{7})$

	2	$-6\sqrt{7}$
2	4	$-12\sqrt{7}$
$-6\sqrt{7}$	$-12\sqrt{7}$	252

$256 - 24\sqrt{7}$
   A) $256 - 24\sqrt{7}$ B) 256 C) $1768 - 24\sqrt{7}$ D) $256 + 24\sqrt{7}$

8. $(\sqrt{5} + \sqrt{11})^2$ $(\sqrt{5} + \sqrt{11})$ $5 + 2\sqrt{55} + 11$
   A) 16 B) 4 C) 146 D) $16 + 2\sqrt{55}$