

Review for Chapter 11 Test

Name _____

Simplify each radical expression.

1. $\sqrt{12x^4}$
 $2x^2\sqrt{3}$

2. $\sqrt{16a^3} \cdot \sqrt{5a^2}$
 $4a^2\sqrt{5a}$

3. $\sqrt{\frac{27x^2}{256}}$
 $\frac{3x\sqrt{3}}{16}$

4. $5\sqrt{32}$
 $20\sqrt{2}$

5. $\frac{8}{\sqrt{7}}$
 $\frac{8\sqrt{7}}{7}$

6. $\sqrt{\frac{17}{64}}$
 $\frac{\sqrt{17}}{8}$

7. $\sqrt{45} + 2\sqrt{5}$
 $5\sqrt{5}$

8. $\sqrt{2}(2\sqrt{3} - 4\sqrt{2})$
 $2\sqrt{6} - 8$

9. $(\sqrt{2} + \sqrt{7})(\sqrt{2} - \sqrt{7})$
 -5

10. $\frac{\sqrt{27}}{2}$
 $\frac{3\sqrt{3}}{2}$

11. $\frac{\sqrt{12x}}{\sqrt{27x}}$
 $\frac{2}{3}$

Diff
 12. $\frac{1}{\sqrt{2} - \sqrt{3}}$
 $\frac{\sqrt{2} + \sqrt{3}}{-1}$
 $-(\sqrt{2} + \sqrt{3})$
 $-\sqrt{2} - \sqrt{3}$

13. $\sqrt{48s^3}$
 $4s\sqrt{3s}$

14. $\sqrt{3x} \cdot \sqrt{5x}$
 $x\sqrt{15}$

15. $\sqrt{\frac{44x^3}{9x}}$
 $\frac{2\sqrt{11x}}{3}$

16. $\frac{6}{\sqrt{3}}$
 $2\sqrt{3}$

17. $3\sqrt{80}$
 $12\sqrt{5}$

18. $\sqrt{\frac{12}{225}}$
 $\frac{2\sqrt{3}}{15}$

19. $\sqrt{28} + \sqrt{63} - 2\sqrt{7}$
 $3\sqrt{7}$

20. $\sqrt{\frac{9}{2x}}$
 $\frac{3\sqrt{2x}}{2x}$

21. $(\sqrt{5} + 4\sqrt{3})^2$
 $53 + 8\sqrt{15}$

22. $\frac{3\sqrt{7}}{\sqrt{20x}}$
 $\frac{3\sqrt{35x}}{10x}$

Diff
 23. $\frac{5}{\sqrt{7} + \sqrt{3}}$
 $\frac{\sqrt{7} - \sqrt{3}}{2}$
 or $\frac{1}{2}\sqrt{7} - \frac{1}{2}\sqrt{3}$

24. $\sqrt{18} - \sqrt{50} + \sqrt{32}$
 $2\sqrt{2}$

25. $\frac{3\sqrt{20}}{\sqrt{9}}$
 $2\sqrt{5}$

26. $\sqrt{3}(\sqrt{6} - \sqrt{12})$
 $3\sqrt{2} - 6$

27. $\frac{4\sqrt{5}}{\sqrt{8y}}$
 $\frac{2\sqrt{5}}{\sqrt{2y}}$

~~28. $\sqrt{\frac{12x}{27x}}$
 $\frac{2}{3}$~~

Diff
 29. $\frac{7}{\sqrt{2} - \sqrt{7}}$
 $\frac{7(\sqrt{2} + \sqrt{7})}{-3}$

or $-\frac{7}{3}\sqrt{2} + \frac{7}{3}\sqrt{7}$

Diff
 30. $\frac{3}{\sqrt{5} + 5}$
 $\frac{3\sqrt{5} - 3}{2}$

or $\frac{3}{2}\sqrt{5} - \frac{3}{2}$