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Review Questions for Exam 11 Algebra 2

1. Express $\sqrt{18} + 5\sqrt{2}$ in simplest radical form.

2. The expression $\sqrt{18} + \sqrt{32}$ is equivalent to

1.
$$2\sqrt{7}$$
2. $5\sqrt{2}$
3. $7\sqrt{2}$
4. $13\sqrt{2}$
 $=7\sqrt{2}$

3. What is the sum of $4\sqrt{12}$ and $2\sqrt{27}$ in simplest form?

1.
$$5\sqrt{3}$$

2. $6\sqrt{39}$ = $4\sqrt{4}\sqrt{3} + 2\sqrt{9}\sqrt{3}$

1.
$$5\sqrt{3}$$

2. $6\sqrt{39}$ = $4\sqrt{4}\sqrt{3} + 2\sqrt{9}\sqrt{3}$
3. $11\sqrt{3}$ = $8\sqrt{3} + 6\sqrt{3} = 14\sqrt{3}$

4. The expression $\frac{2+\sqrt{3}}{2-\sqrt{3}}$ is equivalent to

1.
$$11\sqrt{3}$$
2. $7-4\sqrt{3}$
4. $\frac{7+4\sqrt{3}}{7}$

5. The expression $\frac{\sqrt{3}+1}{\sqrt{3}-1}$ is equal to

1.
$$-1$$
2. 2
3. $2 + \sqrt{3}$

$$\frac{(3+1)(3+1)}{(3-1)(3+1)} = \frac{3+3+3+13+1}{3+15-13-1} = \frac{4+253}{2}$$

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6. Express $\frac{5}{4-\sqrt{13}}$ as an equivalent fraction with a rational denominator.

1.
$$20 + 5\sqrt{13}$$

2.
$$20-5\sqrt{13}$$

3.
$$\frac{20+5\sqrt{13}}{3}$$

4.
$$\frac{20+5\sqrt{13}}{39}$$

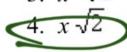


7. If x > 0, the expression $(\sqrt{2x})$ is equivalent to



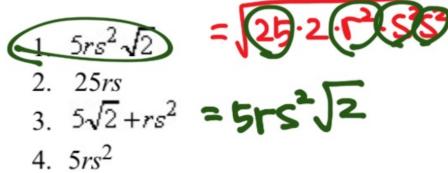


3.
$$x^2\sqrt{2}$$



= (2(X)	=	X\2
			•

8. Simplify: $\sqrt{50r^2s^4}$



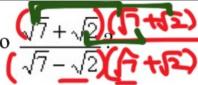
- 4. $5rs^2$

9. If a > 0, then $\sqrt{9a^2 + 16a^2}$ equals

1.
$$\sqrt{7}a$$
 = 2502
2. $5\sqrt{a}$ = 502

$$\frac{3.5a}{4.7a} = 50$$

10. Which expression is equivalent to



1.
$$\frac{9}{5}$$

$$3+2\sqrt{12}$$
 5
 $11+\sqrt{2}$

4.
$$\frac{11+\sqrt{2}}{14}$$

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11. Simplify the expression: $\sqrt{5}(\sqrt{10} + 2\sqrt{5})$

$$\frac{1}{2} \frac{10+5\sqrt{2}}{5+10\sqrt{2}}$$

3.
$$15\sqrt{2}$$

4.
$$\sqrt{15} + 2\sqrt{10}$$

$$=$$
 $\int 50 + 2\sqrt{25}$

$$= \sqrt{252 + 2.5}$$

 $= 5\sqrt{2} + 10$

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12. Simplify the expression: $3\sqrt{2}(\sqrt{6}-2\sqrt{2})$

1.
$$3\sqrt{3} - 12 = 3\sqrt{12} - 6\sqrt{4}$$

1.
$$3\sqrt{3} - 12 = 3\sqrt{12} - 6\sqrt{4}$$

2. $3\sqrt{3} + 12 = 3\cdot 2\sqrt{3} - 12$
4. $6\sqrt{3} + 12 = 6\sqrt{3} - 12$

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13. Simplify the expression:
$$\sqrt{8} \left(\sqrt{2} + \sqrt{18} \right)$$

1.
$$4\sqrt{10}$$

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

4.
$$4+3\sqrt{2}$$

$$=4+12^{2}\cdot 2^{2}\cdot 3^{2}$$

14. Simplify the expression: $\sqrt{3}(\sqrt{6} + \sqrt{8})$

1.
$$\sqrt{18} + \sqrt{24}$$
 = $\sqrt{18} + \sqrt{24}$

$$\frac{3.6}{4.3\sqrt{2} + 2\sqrt{6}} = \sqrt{9.2} + \sqrt{4.6}$$

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15. Simplify the expression: $2\sqrt{y}\left(\sqrt{8y^2} + \sqrt{6}\right)$

1.
$$4y\sqrt{2y} + 12\sqrt{y} = 2\sqrt{8y^3} + 2\sqrt{6y}$$

$$\frac{2. \ 2y\sqrt{2y} - 2\sqrt{6y}}{3. \ 4\sqrt{2y} + 2\sqrt{6y}} = 2\sqrt{2\sqrt{2y}} + 2\sqrt{6y}$$

4.
$$2y\sqrt{-4y}$$
 = 4y \(\frac{724}{724}\) +2 \(\frac{64}{9}\)

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16. Simplify the expression: $\sqrt{x^2y} \left(2x\sqrt{y} - 3\sqrt{x^2y} \right)$

$$\underbrace{1. -x^2y}_{2. x^2y}$$

3.
$$-5x^2y$$

4.
$$-6x^4y^2$$

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17. Simplify the expression: $(2+\sqrt{2})(\sqrt{2}-4)$

1.
$$-6+2\sqrt{2}$$

 $-6-2\sqrt{2}$
3. $6+2\sqrt{2}$

4.
$$6-2\sqrt{2}$$

18. Simplify the expression: $(4\sqrt{3} - 2)^2$

1.
$$8\sqrt{3}$$

2. $-8\sqrt{3}$
3. $52 - 16\sqrt{3}$
4. $52 + 16\sqrt{3}$

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19. Simplify the expression: $(3+\sqrt{5})^2$

$$\begin{array}{r}
1. \ 14 + 6\sqrt{5} \\
2. \ 14 - \sqrt{5}
\end{array} = (3 + \sqrt{5}) \times (3 + \sqrt{5})$$

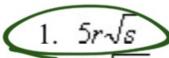
$$3. \ 14 \\
4. \ 4$$

$$= 9 + 3\sqrt{5} + 3\sqrt{5} + 5$$

$$= 14 + 6\sqrt{5}$$

20. Simplify the expression: $6\sqrt{8} \cdot 2\sqrt{2}$

21. Simplify the expression: $5\sqrt{r} \cdot \sqrt{rs}$



- 2. $5\sqrt{r^2s}$
- 3. $5\sqrt{2rs}$
- 4. 5rs

22. Simplify the expression: $3x\sqrt{90x^2} \cdot y\sqrt{2y^2}$

2.
$$18xy\sqrt{5}xy$$

3.
$$18x^2y^2\sqrt{5}$$

4.
$$18x^3y^3\sqrt{5}$$

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