3.2 HW

Solve each equation, and check the solutions.

6. $\sqrt{x+6} = 3$ 6. $\sqrt{x+6} = 3$ 8. $\sqrt{x+3} + 6 = 3$ 10. $16 = 8 + \sqrt{x}$ 12. $\sqrt{2x-3} = \sqrt{10-x}$ 14. $\frac{\sqrt{x+9}}{4} = 3$ 14. $\frac{\sqrt{x+9}}{4} = 3$ 16. $\sqrt{x^2 + 9} = 5$

18.
$$\frac{5}{\sqrt{x-2}} = 5$$
 18. $\frac{5}{\sqrt{x-2}} =$

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ANSWER KEY ANSWER KEY $6. \quad \sqrt{x+6}=3$ 6. $\sqrt{x+6} = 3$ x = 3x = 3 $8. \quad \sqrt{x+3}+6=3$ 8. $\sqrt{x+3}+6=3$ No solution No solution 10. $16 = 8 + \sqrt{x}$ **10.** $16 = 8 + \sqrt{x}$ x = 64x = 6412. $\sqrt{2x-3} = \sqrt{10-x}$ 12. $\sqrt{2x-3} = \sqrt{10-x}$ $x = \frac{13}{3}$ $x=\frac{13}{3}$ 14. $\frac{\sqrt{x+9}}{4} = 3$ 14. $\frac{\sqrt{x+9}}{4} = 3$ x = 135x = 13516. $\sqrt{x^2 + 9} = 5$ 16. $\sqrt{x^2 + 9} = 5$ x = 4 or x = -4x = 4 or x = -418. $\frac{5}{\sqrt{x-2}} = 5$ 18. $\frac{5}{\sqrt{x-2}} = 5$ x = 3x = 3

ANSWER KEY

6. $\sqrt{x+6} = 3$ 6. $\sqrt{x+6} = 3$ x = 3x = 38. $\sqrt{x+3}+6=3$ 8. $\sqrt{x+3} + 6 = 3$ No solution No solution 10. $16 = 8 + \sqrt{x}$ **10. 16** = **8** + \sqrt{x} x = 64x = 6412. $\sqrt{2x-3} = \sqrt{10-x}$ 12. $\sqrt{2x-3} = \sqrt{10-x}$ $x=\frac{13}{3}$ $x=\frac{13}{3}$ 14. $\frac{\sqrt{x+9}}{4} = 3$ 14. $\frac{\sqrt{x+9}}{4} = 3$ x = 135x = 13516. $\sqrt{x^2+9} = 5$ 16. $\sqrt{x^2+9} = 5$ x = 4 or x = -4x = 4 or x = -418. $\frac{5}{\sqrt{x-2}} = 5$ 18. $\frac{5}{\sqrt{x-2}} = 5$ x = 3x = 3

ANSWER KEY

3.3 HW

3.3 HVV Solve. 2. $\sqrt{2x-5} + \sqrt{x+6} = 0$	3.3 Solve 2.
4. $\sqrt{2x-5} - \sqrt{x+6} = 2$	4.
$6. \sqrt{x+4} = 3 + \sqrt{x}$	6.
$8. \sqrt{2x+1} = x-1$	8.
10. $2\sqrt{x} = 1 - \sqrt{4x - 1}$	10.
12. $\sqrt{4x-1} = 2 - 2x$	12.
14. $\sqrt{2x-8} + \sqrt{3x-12} = 0$	14.
16. $x - 2 = \sqrt{9x - 36}$	16.
3.3 HW Solve.	3.3 Solve
2. $\sqrt{2x-5} + \sqrt{x+6} = 0$	2.
2. $\sqrt{2x-5} + \sqrt{x+6} = 0$ 4. $\sqrt{2x-5} - \sqrt{x+6} = 2$	
	2.
4. $\sqrt{2x-5} - \sqrt{x+6} = 2$	2. 4.
4. $\sqrt{2x-5} - \sqrt{x+6} = 2$ 6. $\sqrt{x+4} = 3 + \sqrt{x}$	2. 4. 6.
4. $\sqrt{2x-5} - \sqrt{x+6} = 2$ 6. $\sqrt{x+4} = 3 + \sqrt{x}$ 8. $\sqrt{2x+1} = x - 1$	2. 4. 6. 8.

16. $x - 2 = \sqrt{9x - 36}$	16. $x - 2 = \sqrt{9x - 36}$

3.3 HW Solve. 2. $\sqrt{2x-5} + \sqrt{x+6} = 0$
4. $\sqrt{2x-5} - \sqrt{x+6} = 2$
$6. \sqrt{x+4} = 3 + \sqrt{x}$
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0 0 1 11 4 /
3.3 HW Solve.
Solve.
Solve. 2. $\sqrt{2x-5} + \sqrt{x+6} = 0$
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	ANSWER KEY $\sqrt{2x-5} + \sqrt{x+6} = 0$ No solution	$12. \sqrt{4x-1} = 2 - 2x$ $\frac{1}{2}$		ANSWER KEY $\sqrt{2x-5} + \sqrt{x+6} = 0$ No solution	12.	$\sqrt{4x-1} = 2 - 2x$ $\frac{1}{2}$
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6.	$\sqrt{x+4} = 3 + \sqrt{x}$ No solution	16. $x - 2 = \sqrt{9x - 36}$ 5, 8	6.	$\sqrt{x+4} = 3 + \sqrt{x}$ No solution	16.	$x - 2 = \sqrt{9x - 36}$ 5, 8
8.	$\sqrt{2x+1} = x-1$		8.	$\sqrt{2x+1} = x-1$		
10.	$2\sqrt{x} = 1 - \sqrt{4x - 1}$ $\frac{1}{4}$		10.	$2\sqrt{x} = 1 - \sqrt{4x - 1}$ $\frac{1}{4}$		

	ANSWER KEY $\sqrt{2x-5} + \sqrt{x+6} = 0$ <i>No solution</i>	$12. \sqrt{4x-1} = 2 - 2x$ $\frac{1}{2}$		ANSWER KEY $\sqrt{2x-5} + \sqrt{x+6} = 0$ No solution	12.	$\sqrt{4x-1} = 2 - 2x$ $\frac{1}{2}$
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3.5 HW

1. Find the exact value of $9^{\frac{11}{10}} \cdot 9^{\frac{2}{5}}$ without using a calculator.

2. Rewrite each expression so that each term is in the form kx^n , where k is a real number, x is a positive real number, and n is a rational number.

a. $x^{-\frac{2}{3}} \cdot x^{\frac{1}{3}}$ b. $2x^{\frac{1}{2}} \cdot 4x^{-\frac{5}{2}}$ c. $\frac{10x^{\frac{1}{3}}}{2x^{2}}$ d. $(3x^{\frac{1}{4}})^{-2}$ e. $x^{\frac{1}{2}}(2x^{2}-\frac{4}{x})$

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b. $2x^{\frac{1}{2}} \cdot 4x^{-\frac{5}{2}}$
c. $\frac{10x^{\frac{1}{3}}}{2x^{2}}$
d. $(3x^{\frac{1}{4}})^{-2}$
e. $x^{\frac{1}{2}}(2x^{2}-\frac{4}{x})$

ANSWER KEY

1. Find the exact value of $9^{\frac{11}{10}} \cdot 9^{\frac{2}{5}}$ without using a calculator.

$$9^{\frac{11}{10}} \cdot 9^{\frac{2}{5}} = 9^{\frac{11}{10} + \frac{2}{5}}$$
$$= 9^{\frac{15}{10}}$$
$$= 9^{\frac{3}{2}}$$
$$= (\sqrt[2]{9})^{3}$$
$$= 27$$

2. Rewrite each expression so that each term is in the form kx^n , where k is a real number, x is a positive real number, and n is a rational number.

a.
$$x^{-\frac{2}{3}} \cdot x^{\frac{1}{3}}$$

 $x^{-\frac{1}{3}}$
b. $2x^{\frac{1}{2}} \cdot 4x^{-\frac{5}{2}}$
c. $\frac{10x^{\frac{1}{3}}}{2x^{2}}$
 $5x^{-\frac{5}{3}}$
d. $(3x^{\frac{1}{4}})^{-2}$
 $\frac{1}{9}x^{-\frac{1}{2}}$

e. $x^{\frac{1}{2}} \left(2x^2 - \frac{4}{x} \right)$ $2x^{\frac{5}{2}} - 4x^{-\frac{1}{2}}$

ANSWER KEY

1. Find the exact value of $9^{\frac{11}{10}} \cdot 9^{\frac{2}{5}}$ without using a calculator.

$$9\frac{11}{10} \cdot 9^{\frac{2}{5}} = 9\frac{11}{10} + \frac{2}{5}$$
$$= 9\frac{15}{10}$$
$$= 9\frac{3}{2}$$
$$= (\sqrt[2]{9})^{3}$$
$$= 27$$

2. Rewrite each expression so that each term is in the form kx^n , where k is a real number, x is a positive real number, and n is a rational number.

a.
$$x^{\frac{2}{3}} \cdot x^{\frac{1}{3}}$$

 $x^{\frac{1}{3}}$
b. $2x^{\frac{1}{2}} \cdot 4x^{-\frac{5}{2}}$
 $8x^{-2}$
c. $\frac{10x^{\frac{1}{3}}}{2x^{2}}$
 $5x^{-\frac{5}{3}}$
d. $(3x^{\frac{1}{4}})^{-2}$
 $\frac{1}{9}x^{-\frac{1}{2}}$

e. $x^{\frac{1}{2}} \left(2x^2 - \frac{4}{x} \right)$ $2x^{\frac{5}{2}} - 4x^{-\frac{1}{2}}$