

Simplify each radical expression.

1. $\sqrt{700}$

2. $\sqrt{18x^4}$

3. $\sqrt{3z} \cdot \sqrt{12z}$

4. $\sqrt{\frac{24}{4}}$

5. $2\sqrt{28x^5}$

6. $3\sqrt{7} - 9\sqrt{7}$

7. $5\sqrt{7} - \sqrt{28}$

Solve each radical equation. Check your solutions.

14. $\sqrt{x} + 3 = 8$

16. $\sqrt{3x-5} = \sqrt{x+7}$

15. $2\sqrt{x} + 6\sqrt{x} = 32$

17. $\sqrt{2x+3} = x$

8. $\frac{\sqrt{7}}{11}$

9. $\frac{\sqrt{6}}{15}$

10. $\sqrt{\frac{32y^2}{8y}}$

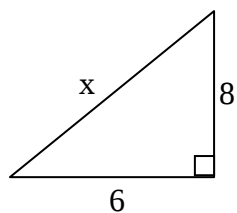
11. $(\sqrt{7}-3)^2$

12. $\sqrt{3}(\sqrt{5}-\sqrt{3})$

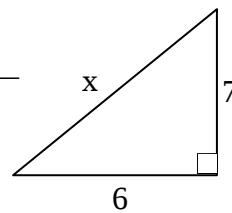
13. $\sqrt{32} + \sqrt{50}$

Find the exact value of x in each right triangle.

18. _____



19. _____

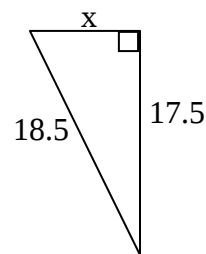


A right triangle has legs a and b and hypotenuse c . Find the exact value of the missing side.

20. $a = 10$, $b = 40$

21. $b = \frac{5}{6}$, $c = \frac{7}{6}$

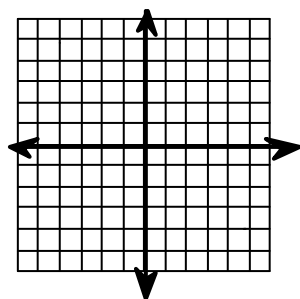
22. Find the length of the missing side rounded to the nearest hundredth.



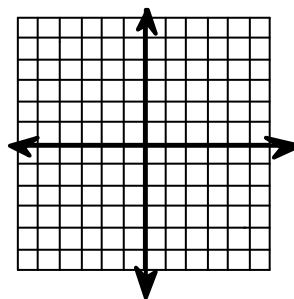
23. Diana is 10 feet directly north of Stacy. Elizabeth is 12 feet directly east of Stacy. How far away are Diana and Elizabeth?

Graph each function:

24. $y = \sqrt{x} - 5$



25. $y = \sqrt{x-1}$



Extra Credit:

A rectangle is 4 times as long as it is wide. The area of the rectangle is 16 ft^2 . How wide is the rectangle? Express your answer in simplest radical form.

Solutions:

1. $10\sqrt{7}$

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

3. $6z$

4. $\sqrt{6}$

5. $4x\sqrt{7x}$

6. $-6\sqrt{7}$

7. $3\sqrt{7}$

8. $\frac{11\sqrt{7}}{7}$

9. $\frac{5\sqrt{6}}{2}$

10. $2\sqrt{y}$

11. $16-6\sqrt{7}$

12. $\sqrt{15}-3$

13. $9\sqrt{2}$

14. $x=25$

15. $x=16$

16. $x=6$

17. $x=3$

18. 10

19. $\sqrt{85}$

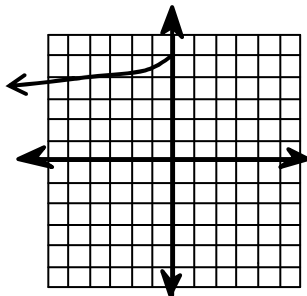
20. $17\sqrt{10}$

21. $\frac{\sqrt{6}}{3}$

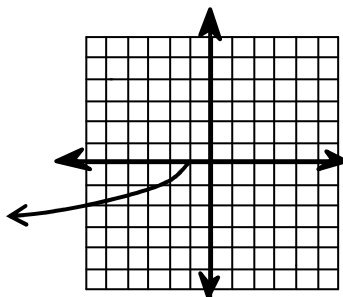
22. 6

23. 15.62 feet

24.



25.



Extra Credit: 2 feet