

No calculator. Show all work for full credit.

1. Solve the equations by square rooting:

a) $\frac{1}{3}x^2 = 12$

b) $25x^2 = 9$

c) $9x^2 - 3 = 10$

d) $(x+2)^2 = 9$

2. Simplify.

a) $7\sqrt{2} - \sqrt{2}$

b) $\sqrt{32} + \sqrt{18}$

c) $2\sqrt{6t} - 3\sqrt{5t} + 2\sqrt{6t}$

d) $5\sqrt{12x} - \sqrt{3x}$

3. Multiply.

a) $(\sqrt{2})(\sqrt{7})$

b) $(4\sqrt{2})^2$

c) $\sqrt{3}(5-\sqrt{3})$

d) $(3+\sqrt{2})(5-\sqrt{2})$

e) $(3+\sqrt{2})^2$

4. Divide. (Rationalize the denominator).

a) $\frac{4}{\sqrt{2}}$

b) $\frac{9}{2\sqrt{3}}$

c) $\frac{\sqrt{3}}{\sqrt{x}}$

5. Solve each equation. I recommend checking your answers!

a) $3 = \sqrt{-2x}$

b) $\sqrt{4x-2} = 3$

c) $\frac{3\sqrt{x}}{4} = 6$

d) $-2\sqrt{x-4} = 6$

e) $3\sqrt{3x-2} = 4$

f) $\sqrt{3x-1} = \sqrt{2x+4}$

6. Solve: $\sqrt{5x+4} = x-4$

7. Find the domain of each of the following functions:

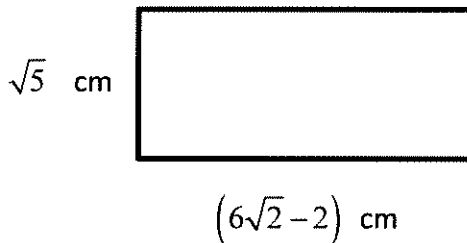
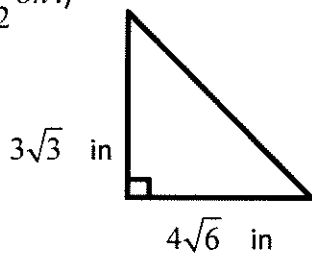
a) $y = \sqrt{2x-3}$

b) $y = \sqrt{4-2x} + 4$

c) $y = 6 - \sqrt{5x}$

8. Find the area of each figure. Give the exact answer in simplest form. (Note: the area of a triangle is

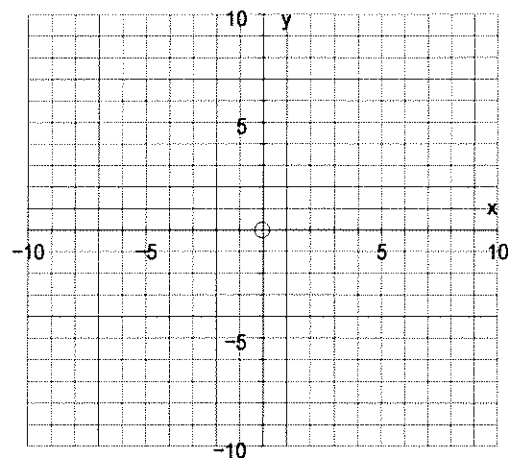
$A = \frac{1}{2}bh$.)



9. Give the domain, fill in a table, then graph.

$$y = \sqrt{x+3} - 1$$

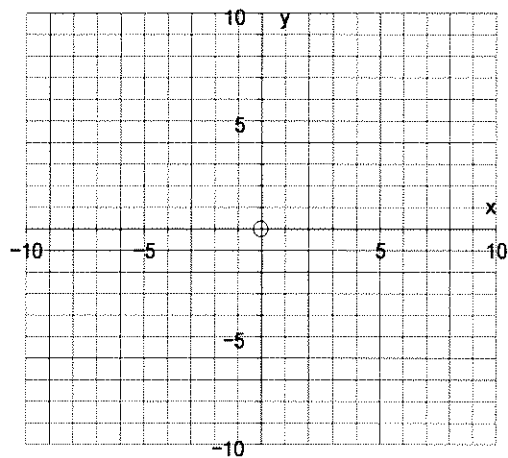
Domain:



10. Give the domain, fill in a table, then graph.

$$y = -\sqrt{2x} + 4$$

Domain:



Review!

11. Solve.

a. $\frac{3}{x+13} = \frac{6}{x}$

b. $\frac{2}{x-3} = \frac{x+2}{3x-1}$

12. Find the equation of the line through the points (4, 140) and (6, 200).