

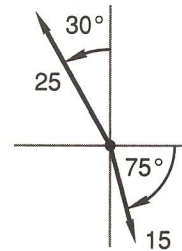
- Henri purchased a stereo from a wholesaler for a price of \$400 and then sold it in his electronics warehouse for \$450. What was his markup as a percentage of his purchase price?
- The express train traveled at a rate of speed that was three times as fast as the freight train. The express train traveled 630 miles in just one hour less than it took the freight train to travel 360 miles. Find the rate of speed and the time for both the express train and the freight train.

3. Divide $a^3 + c^3$ by $a + c$.

4. Which sets of ordered pairs designate functions?

- (a) (2, 3), (3, 4), (4, 5), (5, 6)
- (b) (1, 1), (-1, 1), (2, 4), (-2, 4)
- (c) (0, 0), (4, 2), (4, -2), (5, 5)
- (d) (0, 4), (1, 4), (2, 4), (3, 4)

5. Find the resultant of the vectors shown.



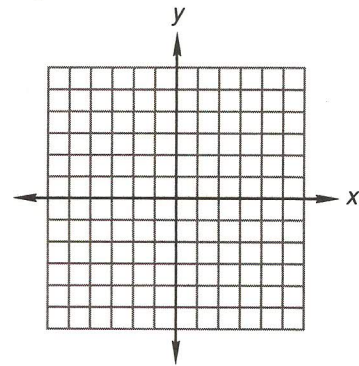
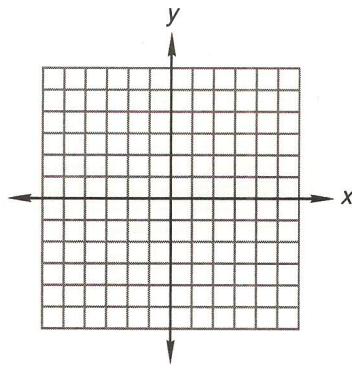
6. Find the number that is $\frac{1}{5}$ of the way from $2\frac{3}{4}$ to $6\frac{2}{3}$.

7. Solve:
$$\begin{cases} \frac{2}{3}x - \frac{2}{5}y = 2 \\ 0.15x + 0.006y = 0.93 \end{cases}$$

8. Solve:
$$\begin{cases} 8x - y = -6 \\ xy = 9 \end{cases}$$

9. Complete the square as an aid in graphing:
 $y = -x^2 - 4x - 6$

10. Graph:
$$\begin{cases} 2x - 3y < 6 \\ x \geq -3 \end{cases}$$



11. Graph on a number line: $-|x| + 3 \geq 7$; $D = \{\text{Reals}\}$



12. Solve:
$$\begin{cases} 2x - 2y = 4 \\ 3x + z = 9 \\ 3y + 3z = -3 \end{cases}$$

13. Solve: $\sqrt{x - 12} = 6 - \sqrt{x}$

Simplify:

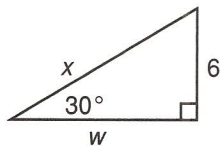
14. $3\sqrt{\frac{3}{8}} - 4\sqrt{\frac{8}{3}} - \sqrt{600}$

15. $\frac{a^{2m}(a^{m/2+1})^4 c^n}{c^{n/2} a^{m/3}}$

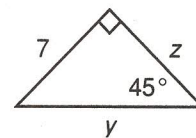
16. $\frac{6 + 2i + 2i^2}{4i - 3i^2 + 3i^3}$

17. Use similar triangles to find:

(a) w and x



(b) y and z



18. Show that each number is rational by writing it as a quotient of integers.

(a) 0.00324

(b) $0.07\overline{45}$

Solve by factoring:

19. $3x^2 + 5x - 2 = 0$

20. $2x^2 = 11x - 15$