Solve the following application problems by using systems of equations or inequalities.

21. The sum of two angles is 180°. The difference between twice the larger angle and three times the smaller angle is 150°. Find the measure of each angle.

Let x = larger angle

y = smaller angle

$-2(x+y)=180(-2)$

$2x-3y=150$

$-2x-2y=-360$

$-5x=-210$

$x=42$

$y=138$

42° and 138°

22. Jamie has to buy two different kinds of rope. Rope x costs \$0.60 per foot and rope y costs \$0.90 per foot. Jamie needs to buy at least 15 feet of rope but can't spend any more than \$9.

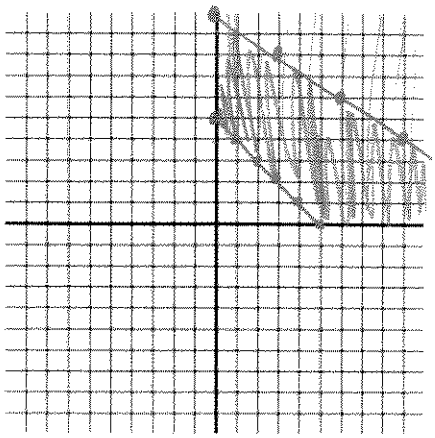
$x+y\geq 15$

$.6x+.9y\leq 9$

$y\geq -x+15$

$.9y\leq -.6x+9$

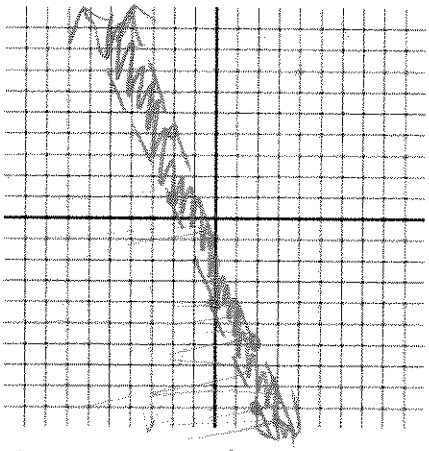
$y\leq -\frac{2}{3}x+10$



Solve each system of inequalities by graphing.

19. $5x > -2y - 6$

$10x + 4y < -4$



$2y > -5x-6$

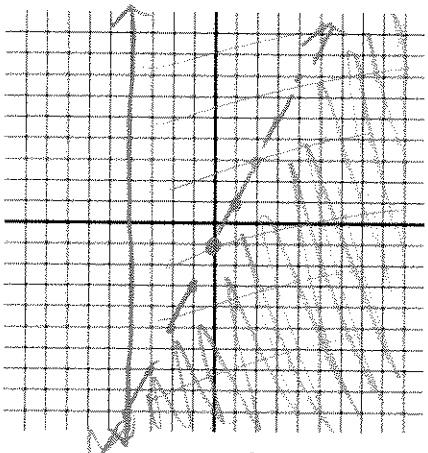
$y > -\frac{5}{2}x-3$

$4y < -10x-4$

$y < -\frac{5}{2}x-1$

20. $x \geq -4$

$-y - 1 > -2x$



$-y > -2x+1$

$y < 2x-1$