

Algebra and graphing problems (answers on subsequent pages)

1. Solve for x: $-250 = 100 - x$
2. Solve for y: $2z - 10y = 40$
 $z = 5$
- 3: Solve for p and q: $p = 1000 - 10q$
 $p = -100 + 5q$
4. Solve for c, t and s: $y = 2000$
 $t = .25y$
 $c = .8(y-t)$
 $y-t = c + s$
5. Graph, with y on vertical axis : $y = 100 + 2x$
6. Graph, with p on vertical axis: $q = 1000 - 4p$

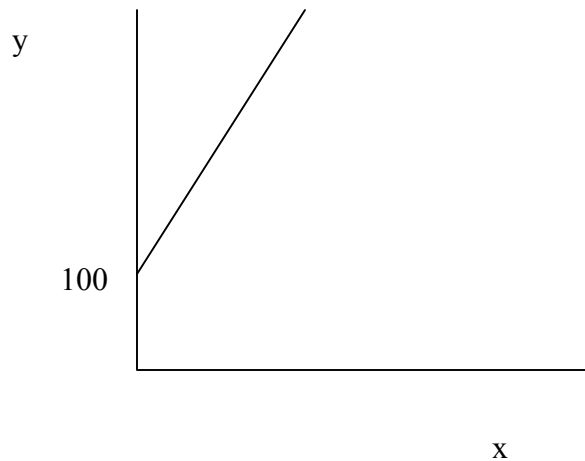
1. add 250 to both sides: $0 = 350 - x$
 add x to both sides: $x = 350$

2. substitute 5 for z in the first equation: $2(5) - 10y = 40$
 simplify: $10 - 10y = 40$
 subtract 40 from both sides: $-30 - 10y = 0$
 add 10y to both sides: $-30 = 10y$
 divide both sides by 10: $-3 = y$

3: set first equation equal to second one: $1000 - 10q = -100 + 5q$
 add 100 to both sides: $1100 - 10q = 5q$
 add 10q to both sides: $1100 = 15q$
 divide both sides by 15: $73.333333 = q$
 substitute 73.3333333 for q in first equation: $p = 1000 - 10(73.333333)$
 simplify: $p = 266.6666666666$

4.
 substitute 2000 for y in 2nd equation: $t = .25(2000) = 500$
 substitute information from other equations into 3rd equation: $c = .8(2000 - 500)$
 simplify $c = .8(1500) = 1200$
 substitute information into 4th equation: $2000 - 500 = 1200 + s$
 subtract 1200 from both sides: $300 = s$

5. The vertical intercept is 100 and the slope is 2



6: add 4p to both sides: $4p + q = 1000$
 subtract q from both sides: $4p = 1000 - q$
 divide both sides by 4: $p = 250 - .25q$

the vertical intercept is 250 and the slope is -0.25

