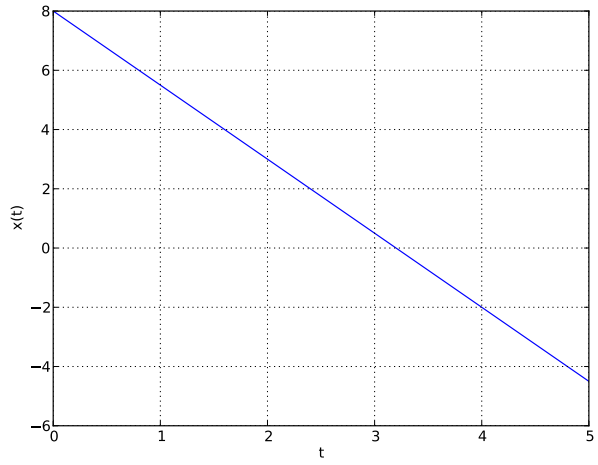
Honors Physics **Algebra Worksheet 2** **Mr. Kelley**

Solve the following equations for x:

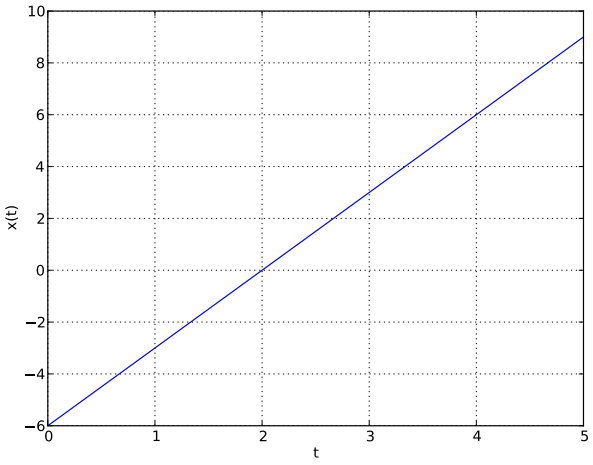
1. $\frac{2x}{5} = z$
2. $\frac{5}{2x} = z$
3. $4x - 3y = 7y$
4. $7z - 2zx = 10zy$
5. $4x^2 - 12x = 44$
6. $A = 4\pi x^2$
7. $21 = \frac{7x}{5y}$
8. $\frac{x}{8} = \frac{4y}{7x}$
9. $\frac{2t}{5x} + \frac{1}{10x} = 3t$
10. $F = k\frac{ab}{x^2}$
11. $8tx + 8t = 12x$
12. $\frac{1}{x} = \frac{1}{y} + \frac{1}{z}$

Write x as a function of t:

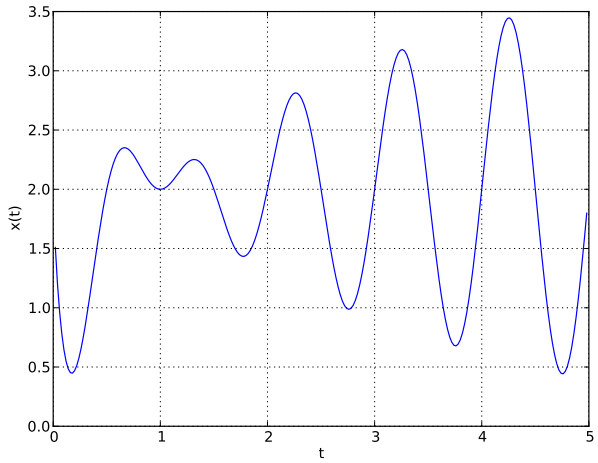
13. $5t + 21x = 15$
14. $t^2 - 2xt = t$
15. $12xt = 4t^2 - 4t + 2x$
16. $\frac{x}{t} - v_\circ = \frac{1}{2}at$
17. **What is the value of $x(4)$ in the following figures?**



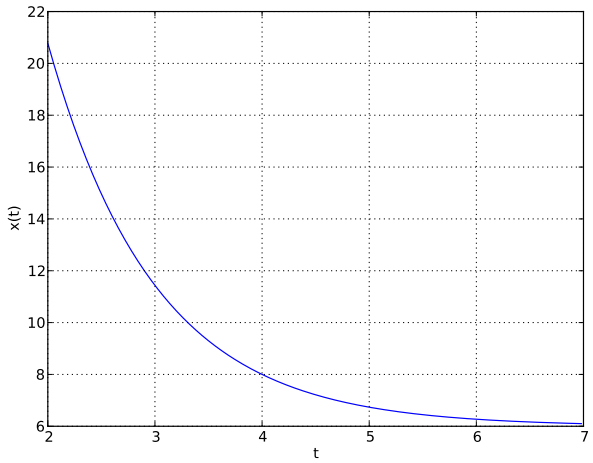
(a)



(b)



(c)



(d)

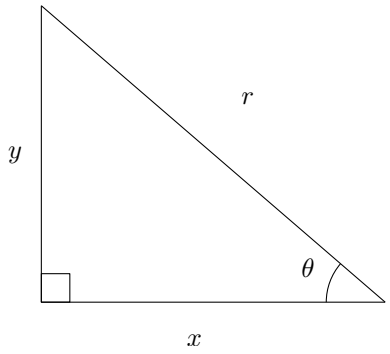
18. What is $x(0)$ in problem 13.

19. What is $x(1)$ in problem 14.

20. What is $x(-1)$ in problem 15.

21. What is $x(0)$ in problem 16.

Use the figure to complete the following problems



22. $x = 5$, $y = 7$, $r =?$, $\theta =?$

23. $x = 1$, $y = 2$, $r =?$, $\theta =?$

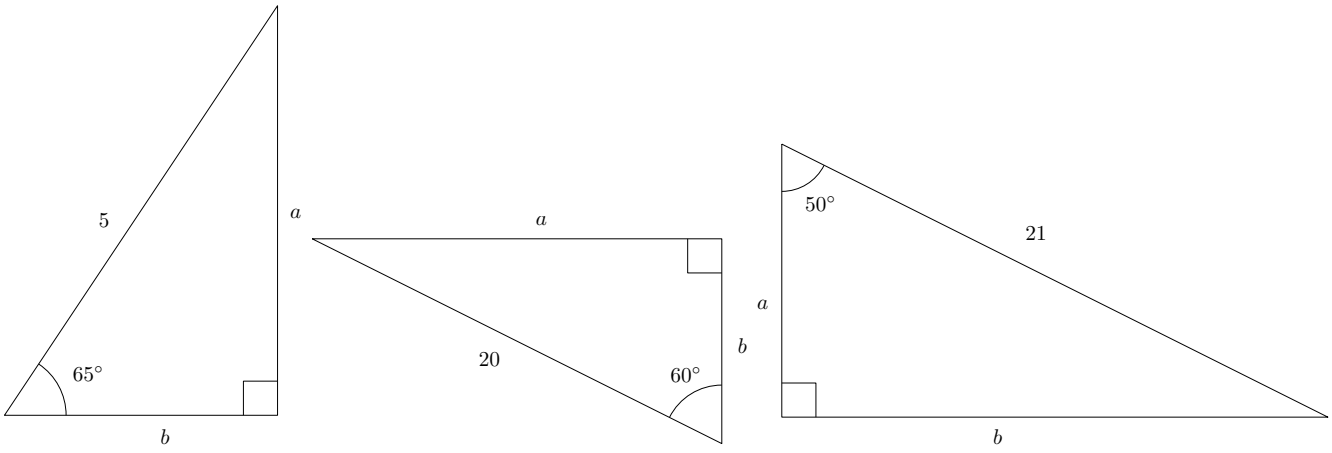
24. $r = 32$, $\theta = 45°$, $x =?$, $y =?$

25. $r = 100$, $\theta = 66°$, $x =?$, $y =?$

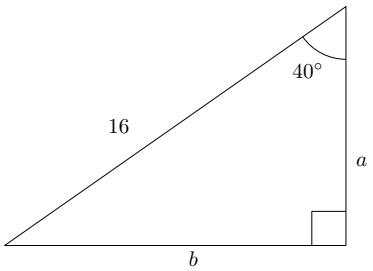
26. $r = 1$, $\theta = 20°$, $x =?$, $y =?$

27. $r = 44$, $\theta = 79°$, $x =?$, $y =?$

28. **Find a and b in the following figures.**



(a) (b) (c)



(d)