Name: _____ Section _____

*Be careful to read the instructions, show your work, and include units as necessary. Use the symbols specified. No partial credit for math review (though there is extra credit possible with 108 points possible). Four points (4 pt) per question.*

*Solve each equation for $t$:*

1. $x = x_0 + v_0 t + \frac{1}{2}at^2$

2. $v = v_0 + at$

*Solve for $\Delta x$:*

3. $v^2 = v_0^2 + 2a\Delta x$

4. *Solve for $x$ and $y$ (2 equations with 2 unknowns) using substitution:*

   $2x + y = 3$

   $y - 2x = 9$

*Consider a sphere of radius $r$.*

5. V = _____ (volume)

6. A = _____ (surface area)

*Consider a circle of diameter $D$.*

7. C = _____ (circumference)

8. A = _____ (area)

*Refer to the figure to the right for questions 9 and 10.*

9. V = _____ (volume)

10. C = _____ (circumference)

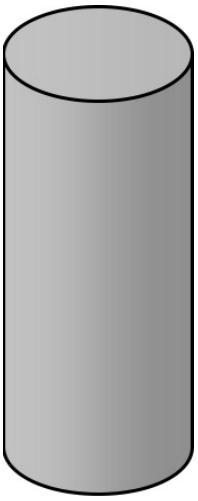

Figure A.8: Solid Right-Circular Cylinder height $h$, radius $r$.

11. *Consider a triangle. How many degrees and radians are there?*

    _____ degrees _____ radians

    *Refer to Fig. A.9 for questions 12 through 24. Answer 12-18 in terms of $x$, $y$, and $r$.*

12. Pythagorean Theorem: _____

13. $\cos\alpha =$ _____

14. $\sin\beta =$ _____

15. $\sin\alpha =$ _____

16. $\cos\beta =$ _____

17. $\tan\alpha =$ _____

18. $\tan\beta =$ _____

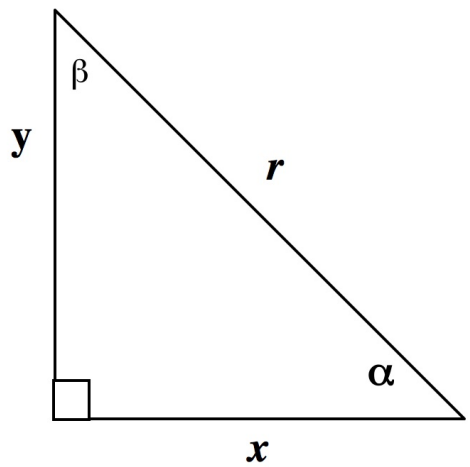


Figure A.9: Right Triangle

If r=4cm and $\beta$=35 degrees:

19. $\alpha =$ _____

20. $x =$ _____

21. $y =$ _____

If x=3cm and y=7cm:

22. $\alpha =$ _____

23. $\beta =$ _____

24. $r =$ _____

*Convert the following:*

25. 55 mph = _____ m/s

26. 162.56 cm = _____ ft' in" (*e.g.*, 6'1")

27. 1 $cm^3$ = _____ $m^3$