Name: _____

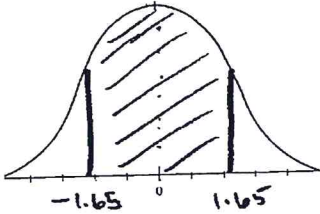## THE STANDARD NORMAL CURVE Worksheet

For each of the problems below, be sure to SKETCH the standard normal curve and SHADE IN the area you are being asked to find. See the following example:

Find the area under the standard normal curve that lies between z = -1.65 and z = 1.65

From the table in the text, or using the Normal83 program, the area = 2(.4505) = .901
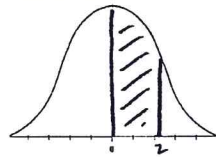The related probability statement is P(-1.65 < z < 1.65) = .901 or 90.1%

−1.65   0   1.65   The shaded area is .901 or 90.1% of the entire area.

1. You find the area under the standard normal curve that lies between:

    Sketch   **Area**

    a) z = 0 and z = 2

    b) z = 0 and z = 3

    c) z = −3 and z = 3

    d) z = 0 and z = 1.70

    e) z = −1.70 and z = 2

    f) z = 1.70 and z = 2.70

2. Find the **AREA** under the standard normal curve:

                                        SKETCH:

    a) **to the left** of $z = -0.40$
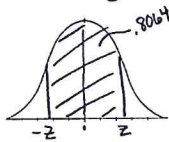
    b) for $z < 0.40$

    c) **to the right** of $z = 1.65$
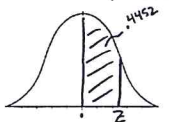
    d) **to the right** of $z = -1.65$

    e) **outside** the interval from $z = -2.00$ to $z = 2.00$

3. Solve for z in each of the following (I have shaded in the areas, you find the z value that gives the correct area.):
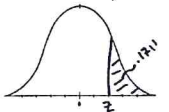

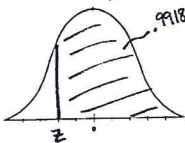
    a) Area $= 80.64\%$ $z =$
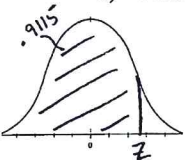

    b) Area $= 44.52\%$ $z =$

    c) Area $= 17.11\%$ $z =$

    d) Area $= 99.18\%$ $z =$
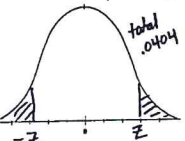

    e) Area $= 91.15\%$ $z =$

    f) Combined area $= 4.04\%$ $z =$