51. We choose $+x$ east and $+y$ north and measure all angles in the "standard" way (positive ones counterclockwise from $+x$, negative ones clockwise). Thus, vector $\vec{d}_1$ has magnitude $d_1 = 3.66$ (with the unit meter and three significant figures assumed) and direction $\theta_1 = 90°$. Also, $\vec{d}_2$ has magnitude $d_2 = 1.83$ and direction $\theta_2 = -45°$, and vector $\vec{d}_3$ has magnitude $d_3 = 0.91$ and direction $\theta_3 = -135°$. We add the x and y components, respectively:

$$x: \quad d_1 \cos\theta_1 + d_2 \cos\theta_2 + d_3 \cos\theta_3 = 0.651 \text{ m}$$
$$y: \quad d_1 \sin\theta_1 + d_2 \sin\theta_2 + d_3 \sin\theta_3 = 1.723 \text{ m} .$$

(a) The magnitude of the direct displacement (the vector sum $\vec{d}_1+\vec{d}_2+\vec{d}_3$) is $\sqrt{0.651^2 + 1.723^2} = 1.84$ m.

(b) The angle (understood in the sense described above) is $\tan^{-1}(1.723/0.651) = 69°$. That is, the first putt must aim in the direction 69° north of east.