Chapter 3 Homework Answers

3a) $\boxed{2.24\text{ m}}$

3b) $\boxed{2.24\text{ m, }26.6°}$

6a) $\boxed{r}\ \boxed{180°-\theta}$.

6b) $\boxed{2r}\ \boxed{180°+\theta}$

6c) $\boxed{3r}\ \boxed{-\theta}$

7) $\boxed{70.0\text{ m}}$

23a) $\boxed{2\hat{i}-6\hat{j}}$

23b) $\boxed{4\hat{i}+2\hat{j}}$

23c) $\boxed{6.32}$

23d) $\boxed{4.47}$

23e) $\boxed{288°}\ \boxed{26.6°}$

24b) $\boxed{5.00\hat{i}+4.00\hat{j}}\ \boxed{-1.00\hat{i}+8.00\hat{j}}$

24c) $\boxed{6.40\text{ at }38.7°}\ \boxed{8.06\text{ at }97.2°}$

27) $\boxed{4.64\text{ m at }78.6°\text{ N of E}}$

34) $\boxed{7.81}$

$\boxed{59.2°}$ is the angle with the x axis

$\boxed{39.8°}$ is the angle with the y axis

$\boxed{67.4°}$ is the angle with the z axis

43) $\boxed{1.43\times10^{4}\text{ m}}$

$\boxed{32.2°\text{ above the horizontal}}$.

49b) $\boxed{18.3\text{ b}}$.

49c) $\boxed{12.4\text{ b at }233°\text{ counterclockwise from east}}$

54a) $\boxed{\text{The perimeter measures }2(H+W)=11.24\text{ m.}}$

54b) $\boxed{12.9\text{ m}}\ \boxed{36.4°\text{ above }+x\text{ axis}}$

55a) $\boxed{0.078\text{ N.}}$

55b) $\boxed{57.9°}$.

55c) $\boxed{32.1°}$

58) $\boxed{\theta=2\tan^{-1}\left(\dfrac{1}{n}\right)}$.

64) $\boxed{(10.0\text{ m, }16.0\text{ m})}$.