

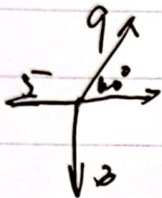
ch 7.

4. $d=0$ 时 $w = \vec{F} \cdot \vec{r} \therefore \vec{F}_A = 5N$.

$\therefore \phi = 64^\circ$ 时 $w_1 = \vec{F} \cdot \vec{r} \cdot \cos 64^\circ = 25 \cdot \cos 64^\circ = 10.96J$.

$\phi = 147^\circ$ 时 $w_2 = 25 \cdot \cos 147^\circ = -20.97J$

15.



$\sum \vec{F} \cdot \vec{r} = 0.5N (10J)$

$\sum \vec{F} \cdot \vec{r} = (\frac{9}{2}\sqrt{3} - 3)N (10J)$

$\therefore w = \sum \vec{F} \cdot \vec{r} \cdot \delta = \frac{3}{2}J$

kinetic energy increase

520. 1560

32.

$w_1 = -(640 + 400) \times 3 \times 10^{-2} \times \frac{1}{2} = -15.6J$

$w_2 = -15.6J$

$w_3 = +(640 + 800) \times 2 \times 10^{-2} \times \frac{1}{2} = 14.4J$

36. $w = +(2+4) \times 10 \times \frac{1}{2} - 2 \times 5 \times \frac{1}{2} = 30 - 5 = 25J$

48. (a) $p = \vec{F} \cdot \vec{v} \propto \vec{F} \propto 0 \therefore p = 0$

(b) $\vec{F} = k \cdot \delta x = 95N$

由机械能守恒 $\frac{1}{2}mv^2 + \vec{F} \cdot \vec{r} = \vec{F} \cdot \vec{r}_p$

$\therefore \vec{F} \cdot \vec{r}_p = 10 - \frac{1}{2} \cdot 450 \times 0.01 = 10 - 2.25 = 7.75J$

$\therefore v = \sqrt{\frac{2\vec{F} \cdot \vec{r}_p}{m}}$

$p = \vec{F} \cdot \vec{v}$ 代入 $\therefore p \approx 1.7 \times 10^2 W$

49. 由机械能守恒

$0 - 0 = -mgh + w_g \quad \vec{F} = \frac{w_g}{\delta} = 6321N$

