1. Solve for $x: A-B x=C+D(x+F)$
(a) $\frac{A-C}{B+D}$
(b) $\frac{1}{B}(C+D F)-A$
(c) $\frac{A-C-D F}{B+D}$
(d) $\frac{A}{B}+C+D(1+F)$
(e) 7.13
2. Solve for $x: \frac{x}{a}+x=8 b$
(a) $4 a b$
(b) $8 a b$
(c) $\frac{8 b}{a-1}$
(d) $\frac{8 b}{a+1}$
(e) $\frac{8 a b}{1+a}$
3. If $10 x+10 y=0$ and $4 x-4 y=-8$, then
(a) $x=-1, y=1$
(b) $x=-10, y=10$
(c) $x=1, y=-1$
(d) $x=0, y=-2$
(e) $x=-2, y=0$
4. Solve for $t: \theta=\omega_{\circ} t-\frac{1}{2} \alpha t^{2}$
(a) $\frac{\omega_{\circ} \pm \sqrt{\omega_{\circ}^{2}-4 \alpha \theta}}{2 \alpha}$
(b) $\frac{\omega_{\circ} \pm \sqrt{\omega_{\circ}^{2}-2 \alpha \theta}}{\alpha}$
(c) $\frac{\omega_{\circ} \pm \sqrt{\omega_{\circ}-2 \alpha \theta}}{\alpha}$
(d) $\frac{\omega_{\circ}^{2} \pm \sqrt{\omega_{\circ}-2 \alpha \theta}}{\alpha}$
(e) $\frac{\omega_{\circ} \pm \sqrt{\omega_{\circ}^{2} \pm 4 \alpha \theta}}{\alpha}$
5. In the diagram, which of the following are true? There may be more than one correct answer, but choose only one.

(a) $F_{x}=F \tan \theta$
(b) $F_{y}=F \tan \theta$
(c) $F_{x}=F \sin \theta$
(d) $F_{y}=F \sin \theta$
(e) $F_{y}=F \cos \theta$
6. In the right-angled triangle shown, which is true?

(a) $\cot \theta=c / a$
(b) $\cot \theta=b / c$
(c) $\cot \theta=a / c$
(d) $\cot \theta=a / b$
(e) $\cot \theta=b / a$
7. $\frac{1}{5}+\frac{5}{1}=$ ?
(a) 26
(b) $1 / 25$
(c) $26 / 5$
(d) $5 / 26$
(e) 1
8. $\frac{1}{5}+\frac{3}{4}=$ ?
(a) $3 / 9$
(b) $19 / 20$
(c) $3 / 20$
(d) $4 / 9$
(e) $4 / 20$
9. If $A$ is equal to $B$, and $B$ is equal to $C$, then we can say that:
(a) there is not enough information to determine a relationship between $A$ and $C$
(b) $A$ is greater than $C$
(c) $A$ is smaller than $C$
(d) $A$ is necessarily equal to $C$
(e) $A$ is not necessarily equal to $C$
10. Evaluate the following indefinite integral: $\int x d x$
(a) 0
(b) $\frac{1}{2} x^{2}+C$
(c) $\frac{1}{2} x^{2}$
(d) $\frac{1}{2} x+C$
(e) $x^{2}+C$
