|  |  |
| --- | --- |
| Part 1 (non-calculator portion) | Part 2 (scientific calculator required) |
| 1. $β=60°, a=15\sqrt{3}, c=30\sqrt{3}$
2. $α=45°,a=10\sqrt{2}, b=10\sqrt{2}$
3. $β=30°, a=\frac{9\sqrt{3}}{2}, b=\frac{9}{2}$
4. $b=10\sqrt{2}, α=45°, β=45°$
5. $a=\frac{7\sqrt{3}}{3}, α=30°, β=60°$
6. $c=8\sqrt{3}, α=30°, β=60°$
 | 1. $18126 ft$
2. $19°$
 |
|  | 1. $γ=98.3°, a=45.2, b=79.7$
2. $α=41.2°, a=36.6, c=11.2$
3. $acute Δ: β\_{1}=49.7°, γ\_{1}=88.6°, c\_{1}=31.9;obtuse Δ: β\_{2}=130.3°, γ\_{2}=8.0°, c\_{2}=4.4$
4. $no Δ possible$
5. $α=8.4°, β=148.4°, b=117.4$
6. $α=22.4°, γ=2.9°, c=6.2$
7. $no Δ possible$
8. $9.88 mi$
9. $38.3 ft$
 |
| 1. $42\sqrt{2} cm^{2}$
2. $72\sqrt{3} ft^{2}$
3. $110 yd^{2}$
 | 1. $a=81.0, β=39.6°, γ=68.3°$
2. $b=59.0, α=161.6°, γ=5.7°$
3. $α=32.1°, β=37.5°, γ=110.4°$
4. $no Δ possible$
5. $75.0 in^{2}$
6. $105 ft$
7. $436 ft^{2}$
 |
| 1. $50i-18j$
2. $37i-43j$
3. $4\sqrt{5}$
4. $\frac{2\sqrt{5}}{5}i-\frac{\sqrt{5}}{5}j$
5. $\sqrt{34}$
6. $\frac{-3\sqrt{34}}{34}i+\frac{5\sqrt{34}}{34}j$
 | 1. $\frac{9\sqrt{10}}{5}i-\frac{3\sqrt{10}}{5}j$
2. $26 kg$
 |

|  |  |
| --- | --- |
| 1. $3+3\sqrt{3}i$
2. $-\frac{7\sqrt{2}}{2}+\frac{7\sqrt{2}}{2}i$
3. $-4\sqrt{3}-4i$
4. $\frac{9\sqrt{2}}{2}-\frac{9\sqrt{2}}{2}i$
5. $-10i$
6. $11$
7. $42cis\left(5°\right)$
8. $\frac{3}{4}cis\left(210°\right)$
9. $216cis\left(90°\right)$
 | 1. $\sqrt{29}cis\left(111.8°\right)$
2. $3\sqrt{5}cis\left(63.4°\right)$
3. $\sqrt{65}cis\left(209.7°\right)$
4. $\sqrt{89}cis\left(328.0°\right)$
5. $6cis(180°)$
6. $9cis(90°)$
 |