

Answers to Practice Exam 1

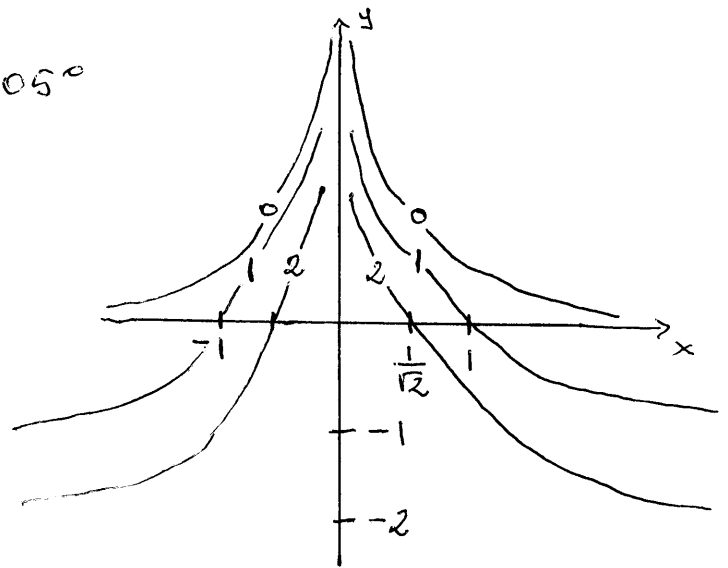
0.1 $6x + 6z - 12 = 0$

0.2 a) 230.02 mph b) 7.05°

0.3 $c=0 \rightarrow y = \frac{1}{x^2}$

$c=1 \rightarrow y = \frac{1}{x^2} - 1$

$c=2 \rightarrow y = \frac{1}{x^2} - 2$



0.4 $z = -x - \frac{2}{3}y + \frac{7}{3}$

0.5 a) $\frac{\text{joules}}{\text{ohm}}$

b) When $V=200$ volts and $R=300$ ohms, as resistance increases energy decreases at the rate of $-0.4 \frac{\text{joules}}{\text{ohm}}$.

c) $f_R(V, R) = aV^2 - \frac{26}{R^3}$

0.6 $\vec{u} = \frac{1}{\sqrt{6}}\vec{i} - \frac{1}{\sqrt{6}}\vec{j} - \frac{2}{\sqrt{6}}\vec{k}$

1. a)

2. d)

3. d)

4. d)

5. b)

6. e)

7. e)

8. e)