Section 3.5
p. 331: 1-15 odd, 26, 28
(1) $x=10$
(3) $x=12$
(5) $x=-3$
(7) $x=10,000$
(9) $x=\frac{21}{4}$
(11) $x=24.22$
(13) $x=39.61$
(15) $x=-.41$
(26) $x=7.39$
(28) $x=7.39$

Solutions
(1) $\left(\frac{1}{3}\right)^{x / 5}=\frac{1}{9}$

$$
\begin{aligned}
& \left(\frac{1}{3}\right)^{x / 5}=\left(\frac{1}{3}\right)^{2} \\
& \frac{x}{5}=2 \Rightarrow x=10
\end{aligned}
$$

(a) $4^{-1}=x-5$
$\frac{1}{4}=x-5$
$\frac{21}{4}=x$
(26)

$$
\begin{array}{r}
2 \ln x=4 \\
\ln x=2 \\
e^{2}=x \\
7.39=x
\end{array}
$$

(3)

$$
\begin{aligned}
& 5^{x / 4}=125 \\
& 5^{x / 4}=5^{3} \\
& \frac{x}{4}=3 \Rightarrow x=12
\end{aligned}
$$

(11)

$$
\begin{aligned}
& x=\log _{1.06} 4.1 \\
& x=24.22
\end{aligned}
$$

(28)

$$
\begin{aligned}
& 6 \ln x=12 \\
& \ln x=2 \\
& e^{2}=x \\
& 7.39=x
\end{aligned}
$$

(13)

$$
\begin{array}{rl}
e^{.035 x}=4 \\
.035 x=\ln 4 & 2 e^{-x}
\end{array}=3
$$

(7)

$$
10^{4}=x
$$

(5)

$$
\begin{gathered}
10^{-x / 3}=10 \\
\frac{-x}{3}=1 \\
x=-3 \\
e^{.035 x}=4 \\
.035 x=\ln 4 \\
x=39.61
\end{gathered}
$$

$$
10000
$$

