10-3 Practice Problems

1) $(x-5)(x+3)=0$

$x-5=0$ OR $x+3=0$

$+5 \quad +5$ $\quad -3 \quad -3$

$x=5$ OR $x=-3$

2) $(z-13)(z-14)$

$z-13=0$ OR $z-14=0$

$+13 \quad +13$ $\quad +14 \quad +14$

$z=13$ OR $z=14$

3) $(d-7)(d+\frac{4}{3})=0$

$d-7=0$ OR $d+\frac{4}{3}=0$

$+7 \quad +7$ $\quad -\frac{4}{3} \quad -\frac{4}{3}$

$d=7$ OR $d=-\frac{4}{3}$

4) $(3n+11)(n+1)=0$

$3n+11=0$ OR $n+1=0$

$-11 \quad -11$ $\quad -1 \quad -1$

$\frac{3n}{3}=\frac{-11}{3}$ OR $n=-1$

$n=-\frac{11}{3}$

5) $(2y+5)(7y-5)=0$

$2y+5=0$ OR $7y-5=0$

$-5 \quad -5$ $\quad +5 \quad +5$

$\frac{2y}{2}=\frac{-5}{2}$ $\quad \frac{7y}{7}=\frac{5}{7}$

$y=-\frac{5}{2}$ OR $y=\frac{5}{7}$

6) $2x+2y$

$2(x+y)$

7) $3s^4+16s$

$s(3s^3+16)$

8) $7w^5-35w^2$

$7w^2(w^3-5)$

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9) $15n^3 + 25n$

$1 \cdot 5 \cdot 3$

$5n(3n^2+5)$

10) $v^3 - 5v^2 + 9v$

$v(v^2-5v+9)$

11) $6q^5 - 21q^4 - 15q^2$

$6 = 1 \cdot 2 \cdot 3$

$3q^2(2q^3-7q^2-5)$

Directions: Solve the equation.

12) $b^2 + 6b = 0$

$b(b+6)=0$

$b=0$ or $b+6=0$

$-6 \quad -6$

$b=-6$

13) $-10n^2 + 35n = 0$

$-1 \cdot 2 \cdot 5$

$-5n(2n-7)=0$

$\frac{-5n}{-5}=\frac{0}{-5}$ or $2n-7=0$

$+7 \quad +7$

$\frac{2n}{2}=\frac{7}{2}$

$n=0$ OR $n=\frac{7}{2}$

14) $18c^2 + 6c = 0$

$6c(3c+1)=0$

$\frac{6c}{6}=\frac{0}{6}$ or $3c+1=0$

$-1 \quad -1$

$\frac{3c}{3}=\frac{-1}{3}$

$c=0$ OR $c=\frac{-1}{3}$

15) $3k^2 = 6k$

$-6k \quad -6k$

$3k^2-6k=0$

$3k(k-2)=0$

$\frac{3k}{3}=\frac{0}{3}$ $\quad k-2=0$

$+2 \quad +2$

$k=0$ OR $k=2$

16) $4s^2 = 10s$

$-10s \quad -10s$

$4 = 1 \cdot 2 \cdot 2$

$4s^2-10s=0$

$2s(2s-5)=0$

$\frac{2s}{2}=\frac{0}{2}$ $\quad 2s-5=0$

$+5 \quad +5$

$\frac{2s}{2}=\frac{5}{2}$

$s=0$ OR $s=\frac{5}{2}$

17) $28m^2 = -8m$

$+8m \quad +8m$

$8 = 1 \cdot 2 \cdot 4$

$28m^2+8m=0$

$4m(7m+2)=0$

$\frac{4m}{4}=\frac{0}{4}$ OR $7m+2=0$

$-2 \quad -2$

$\frac{7m}{7}=\frac{-2}{7}$

$m=0$ OR $m=\frac{-2}{7}$