Factor the common factor out of each expression.

25) $-4m^2 + 6m + 20$

$= -2(2m^2 - 3m - 10)$

Factor each completely.

29) $r^2 + 14r + 48$

$= (r+6)(r+8)$

$\times (48)$

$+ (14)$

$6, 8$

$= r^2 + 8r + 6r + 48$

$r^2 + 14r + 48$

✓

Factor each completely.

30) $x^2 + 14x + 45$

$x45$

$+14$

$= (x+5)(x+9)$

$= x^2 + 9x + 5x + 45$ 5, 9

$= x^2 + 14x + 45$

Factor each completely.

31) $n^2 - 16n + 60$

160

$+(-16)$

$-6 \cdot -10$

$= (n-6)(n-10)$

$= n^2 - 10n - 6n + 60$

$= n^2 - 16n + 60$

Factor each completely.

32) $x^2 - 7x - 18$

$x - 18$

1, 18

2, 9

$+ \quad -$

$= (x + 2)(x - 9)$

$= x^2 - 9x + 2x - 18$

$= x^2 - 7x - 18$

Factor each completely.

33) $a^2 - a - 20$

$X \quad -20$

$= (a-5)(a+4)$ $\quad +4 \quad -1$

$= a^2 + 4a - 5a - 20$ $\quad -5 \quad 4$

$= a^2 - 1a - 20$

Factor each completely.

34) $b^2 + 5b - 24$

$(b-3)(b+8)$

$b^2+8b-3b-24$

$b^2+5b-24$

$x-24$

$+5$

$-3, 8$

1, 24

2, 12

3, 8

Factor each completely.

35) $b^2 + 4b$

$= b(b + 4)$

Factor each completely.

36) $v^2 + 7v$

$= v(v + 7)$

Solve each equation by factoring.

+12x +12x

1) $x^2 + 32 = -12x$

$x^2 + 12x + 32 = 0$ X 32

$(x+8)(x+4) = 0$ + 12

$-8 \quad -8 \quad -4 \quad -4$

either $x+8=0$ or $x+4=0$ 8, 4

$x = -8$ or $x = -4$

Solution Set $\{-8, -4\}$

Solve each equation by factoring.

2) $n^2 + 7n = 8$

$n^2 + 7n - 8 = 0$ $\times(-8)$

$(n-1)(n+8) = 0$ $+(7)$

$+1$ $+1$

either $n - 1 = 0$ or $n + 8 = 0$

$n = 1$ or $n = -8$

S.S. $= \{-8, 1\}$

Solve each equation by factoring.

— look for common factor first.

3) $4a^2 - 20a = -16$

$\frac{4a^2}{4} - \frac{20a}{4} + \frac{16}{4} = \frac{0}{4}$

$4(a^2 - 5a + 4) = 0$

$4(a-4)(a-1) = 0$

$\times 4$, $+ -5$

$+4 \quad +4 \quad +1 \quad +1$

either $a - 4 = 0$ or $a - 1 = 0$

$-4 \quad -1$

$a = 4$ $a = 1$

SS { 4, 1 }

Solve each equation by factoring.

4) $k^2 = -6k + 16$

$k^2 + 6k - 16 = 0$

$(k+8)(k-2) = 0$

either $k+8=0$ or $k-2=0$

$k = -8$ or $k = 2$

S.S. $\{-8, 2\}$

× −16, + 6

−8 −8 +2 +2

8 − 2

Finish thru 8.