632 #13-19 - Do Now

(13) $3x^3+12x^2$

$3x^2(x+4)$

(14) $6x^2+3x$

$3x(2x+1)$

(15) $18x^4-9x^3$

$9x^3(2x-1)$

(16) $8x^5+4x^2-2x$

$2x(4x^4+2x-1)$

(17) $2x^3-6x^2+4x$

$2x(x^2-3x+2)$

$2x(x-1)(x-2)$

(18) $48x^3-75x$

$3x(16x^2-25)$

$3x(4x+5)(4x-5)$

(19) $(x^3+3x^2)+(4x+12)$

$x^2\cancel{(x+3)}+4\cancel{(x+3)}$

$(x+3)(x^2+4)$

G07#34-41

(34) $-x+x^2=56$

$x^2-x-56=0$

$(x-8)(x+7)=0$

$x=8,-7$

(35) $x^2-20x=-51$

$x^2-20x+51=0$

$(x-3)(x-17)=0$

$x=3,17$

(36) $x^2-5x-84=0$

$(x+7)(x-12)=0$

$x=12,-7$

(37) $x^2+3x-31=-3$

$\quad\quad\quad +3 \quad +3$

$x^2+3x-28=0$

$(x-4)(x+7)=0$

$x=4,-7$

38 $x^2 - 2x - 19 = -4$

$+4$

$x^2 - 2x - 15 = 0$

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

$x = 5, -3$

39 $x^2 - x - 8 = 82$

-82

$x^2 - x - 90 = 0$

$(x-10)(x+9) = 0$

$x = 10, -9$

40 $x^2 + 42 = 13x$

$x^2 - 13x + 42 = 0$

$(x-6)(x-7) = 0$

$x = 6, 7$

41 $x^2 - 9x + 18 = 2x$

$-2x$

$x^2 - 11x + 18 = 0$

$(x-9)(x-2) = 0$

$x = 9, 2$

629 # 21-28

21) $24x^3+18x^2$

$6x^2(4x+3)$

22) $-3w^4+21w^3$

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

23) $2y^3-10y^2-12y$

$2y(y^2-5y-6)$ $1\cdot 6$ $2\cdot 3$

$2y(y+1)(y-6)$

24) $5s^3+30s^2+40s$

$5s(s^2+6s+8)$

$5s(s+2)(s+4)$

25) $-7m^3+28m^2-21m$

$-7m(m^2-4m+3)$

$-7m(m-1)(m-3)$

(26) $2d^4+2d^3-60d^2$

$2d^2(d^2+d-30)$

$2d^2(d-5)(d+6)$

(27) $4t^3-144t$

$4t(t^2-36)$

$4t(t+6)(t-6)$

(28) $-12z^4+3z^2$

$-3z^2(4z^2-1)$

$-3z^2(2z+1)(2z-1)$

Bonus

① $x^4 - 16$

$(x^2+4)(x^2-4)$

$(x^2+4)(x+2)(x-2)$

$\boxed{\text{HMWK}}$

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