Review Packet day 2 $\quad \sqrt{68} = \sqrt{4}\sqrt{17}$

11.) $\dfrac{4 \pm 2i\sqrt{17}}{2}$

[A] $\boxed{2 \pm i\sqrt{17}}$

30.)

$$\begin{array}{c|ccc|c} & 1 & -1 & 1 & -21 \\ \hline 3 & 1 & 2 & 7 & 0 \end{array}$$

[A]

$(x-3)(x^2 + 2x + 7)$

8.) $(Y-2)\, X = \dfrac{3y+7}{y-2}(Y-2)$

$xy - 2x = 3y + 7$
$\quad\;\; -7 \qquad\quad -7$

$xy - 2x - 7 = 3y$
$-xy \qquad\qquad -xy$

$-2x - 7 = 3y - xy$

$\dfrac{-2x-7}{3-x} = \dfrac{y(3-x)}{3-x}$

$\dfrac{-2x-7}{3-x} = y = f^{-1}$

$\boxed{C}$

$\dfrac{-1(2x+7)}{-1(x-3)} =$

$\boxed{\dfrac{2x+7}{x-3} = f^{-1}}$
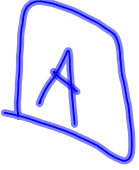
31.) $y = ae^{Kt}$

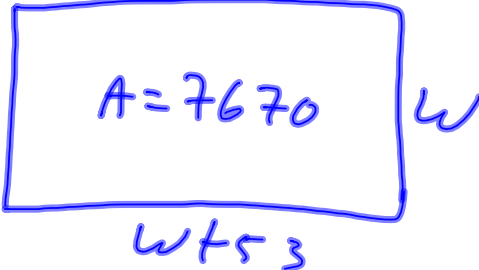$\qquad\qquad\qquad y = ae^{0.173286t}$

$2\cancel{a} = \cancel{a}\,e^{4K} \qquad \ln 10{,}000 = \ln e^{0.173286t}$

$\ln 2 = \ln e^{4K} \qquad \dfrac{\ln 10{,}000}{0.173286} = 0.173286\,t$

$\dfrac{\ln 2}{4} = \dfrac{4K}{4}$

$K \approx 0.173286 \qquad t \approx 53.1 \quad \boxed{A}$

27.) $\dfrac{24\text{ miles}}{3\text{ hrs.}} = 8\text{ mph}$

$\dfrac{+15\text{ mph}}{\boxed{D} \quad \boxed{23\text{ mph}}}$

28.)

$A = 7670$ — W

$W + 53$

$W(W+53) = 7670$

$W^2 + 53W = 7670$

$W^2 + 53W - 7670 = 0$

25.)

$\boxed{E}$

$$Y = 2x^2 - 4x + 7$$

$$
x+2 \overline{\smash{\big)}\ 2x^3 + 0x^2 - x + 6}
$$

$-2x^3 + 4x^2$

$-4x^2 - x$

$+4x^2 + 8x$

$7x + 6$

$-7x + 14$

-8