1.7 Quiz – Early Finishers Solutions

(1.) (a) $u_{62} = 24 + (62-1)16$
$= 1000$

(b) $u'_4 = 8 \cdot r^{(4-1)} = 24 + (13-1)16$

(c) $r^3 = (24 + 12 \cdot 16)/8 = 27$
$r = 3$

(2) $u_5 = 12 + (5-1)d = 12r$ (1)
$u_{13} = 12 + (13-1)d = 12r^2$ (2)

$12 + 4d = 12r$ (1)
$3 + d = 3r$ } subtract
$1 + d = r^2$ (2)
$1 - 3 = r^2 - 3r$
$r^2 - 3r + 2 = 0$
$(r-2)(r-1) = 0$
$r = 1, 2$ disregard $r = 1$
$r = 2$ ~~arithmetic~~ geometric sequence: 12, 24, 48

$u_5 = 12 + (5-1)d = 24$
$d = 3$

$r = 2, \quad d = 3$

1.7 QUIZ - SOLUTIONS

$\left[\frac{1}{2}\left(\frac{3}{2}\right)\right]^2 = \frac{9}{16}$

(3)(a) $f(x) = 2x^2 + 3x - 1$

$= 2\left(x^2 + \frac{3}{2}x + \frac{9}{16}\right) - \frac{9}{8} - 1$

$= 2\left(x + \frac{3}{4}\right)^2 - \frac{17}{8}$

$\left(-\frac{3}{4}, -\frac{17}{8}\right)$

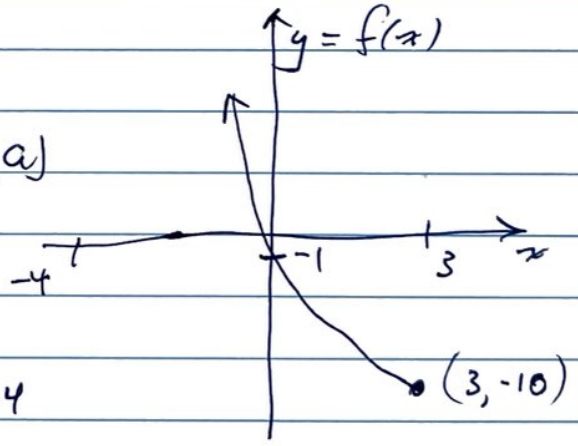
(b) $f(x) = 2\left(x - \left(-\frac{3}{4}\right)\right)^2 + -\frac{17}{8}$

(c) $x = \frac{-3 \pm \sqrt{9+8}}{4}$

$= \frac{-3 \pm \sqrt{17}}{4}$

(4)

(a)



(b) $p = 3$

(c) $g(x) = -f(x) + 4$

$= -x^2 + 6x + 1 + 4$

$= -x^2 + 6x + 5$

(d) $-0.464, 6.46$