ALGEBRA 2 READINESS PRACTICE PROBLEMS

NAME:

Instructions: You may not use a calculator. Show as much work as possible.

Question 1. Evaluate each of the following:

(a) $5 - 3(x - 1)$ when $x = 6$.

(b) $4x^2 - 5x + 1$ when $x = -2$.

(c) $4xy - 2y^2 + x$ when $x = 2, y = -2$.

Question 2. Expand the following:

(a) $r(r^2 - 2)$

(b) $(x - 5)(x + 2)$

(c) $(2x + 1)(2x - 1)$

(d) $(y - 1)(x + 2)$

(e) $(\sqrt{2} + \sqrt{3})^2$

Question 3. Solve for the variable below:

(a) $6x + 7 = 31$

(b) $3x + \dfrac{1}{4}x = 26$
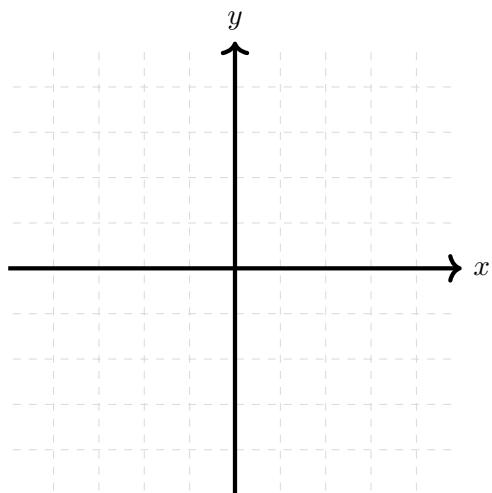
(c) $12(y - 1) = 8(y + 1)$

(d) $\dfrac{1}{2x} - \dfrac{2}{3x} = -\dfrac{3}{4}$

(e) $2(1 - 2(x + 2)) = 4x$

Question 4.   (a) If $f(x) = 4x - 7$, what is $f(-2)$?

(b) If $f(x, y) = 2x - 3xy$, what is $f(1, 4)$?

Question 5. Graph the equation $y = 3x - 4$ on the coordinate plane:

Question 6. Find the equation of a line that is parallel to the line $y = 2x - 1$ that passes through the point $(-8, 4)$.

Question 7. Solve for x and y in the system of equations:

$$\begin{cases} 4x - 2y = 10 \\ x + 2y = 15 \end{cases}$$