Geometry Assessment

1. Simplify.

a) $(5 - 2)^2 \div 3 + (-10)$

b) $(4x + 9) - (6x - 3)$

c) $(2x + 5)(7x - 1)$

d) $(4xy^3)(5x^3y^4)$

e) $(2xy^3)^4$

f) $\frac{9x^4y^{-5}}{12xy^2}$

2. Factor.

a) $x^2 + 5x + 6$

b) $x^2 - 9$

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

3. Solve.

a) $2x + 6 + x - 4 = 10$

b) $3(x - 8) = x + 7 - 5x$

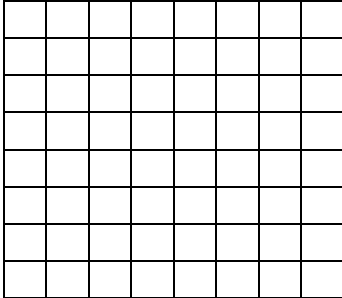$\frac{1}{6}x + 2 = \frac{1}{2}x + \frac{3}{4}$

d) $\frac{2}{3} = \frac{x+5}{x-4}$
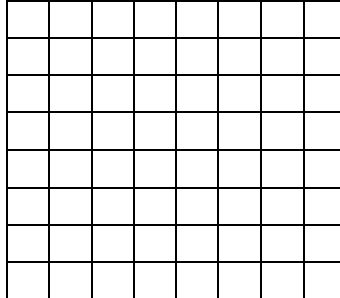
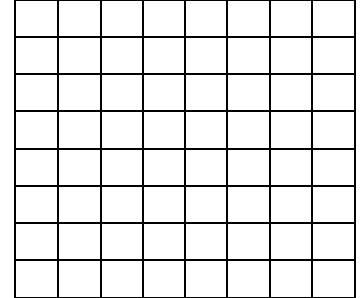e) $x^2 - 3x - 10 = 0$

f) $2x^2 + x = 4$

4. Graph.

a) $y = 2x - 3$

b) $2x - 3y = 6$

c) $y > -\frac{1}{2}x + 1$

4. Write the equation of a line that goes through the points $(-2, 4)$ and $(3, 14)$.

5. Write the equation of a line, in slope intercept that is parallel to the equation $2x + y = 8$ and goes through the point $(1, 3)$.

6. Solve the system of equations.

a) $y = 2x + 3$
$2x + 3y = 17$

b) $5x - 2y = 12$
$4x + 3y = 5$