

Name: _____

1. Calculate without a calculator

(a) $3 + 2 \times 5 - 6 \div 8^2$

(b) $2^2 \times 2^{12} \times 2^8 \div 2^{20}$

(c) $2^2 \times 2^{12} \times 2^8 \div 4^{10}$

(d) $2^2 \times 2^{12} \times 2^8 \times 2^{-20}$

(e) $2^2 \times 2^{12} \times 2^8 \times \left(\frac{1}{2}\right)^{20}$

(f) $2^2 \times 2^{12} \times 2^8 \div \left(\frac{1}{2}\right)^{-20}$

(g) $\frac{2}{5} + \left(\frac{2}{5}\right)^2 \div 4$

(h) $\frac{1}{2} \times \left(\frac{1}{2}\right)^5 + 2$

(i) $\frac{2}{3} \times 0.5^2 \div \frac{1}{4}$

(j) $0.5 + 1.5 \times 2 - 3$

(k) $\frac{3}{4} + 1.25 - \left(\frac{1}{8} + 0.125\right)^2$

(l) $\frac{1}{6} \times 1.25 \div 5$

(m) $1 + \frac{2}{3} \times 3 \times \left(\frac{10}{3}\right)^3 \times \frac{3}{2} \div 5$

(n) $\sqrt[3]{27}$

(o) $\sqrt{121}$

2. Solve for x

(a) $1 + 2x = 3 - \frac{2}{3}(x + 6)$

(b) $2 - 2(x + 1) = \frac{2}{3}(x + 9)$

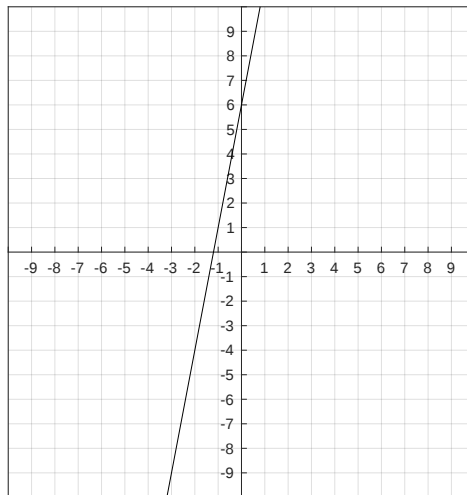
(c) $5x + 3(x - 1) = \frac{1}{5}x + 6$

(d) $8 - \frac{2}{5}x = 4 - \frac{1}{5}(x + 45)$

3. Write down the equations for the graphed functions. Show some work and justify your answers.

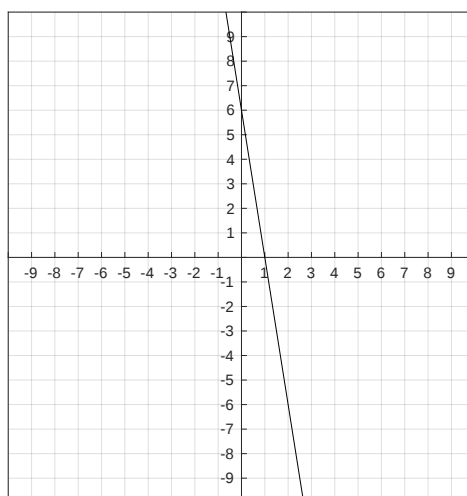
(a)

Answer: _____



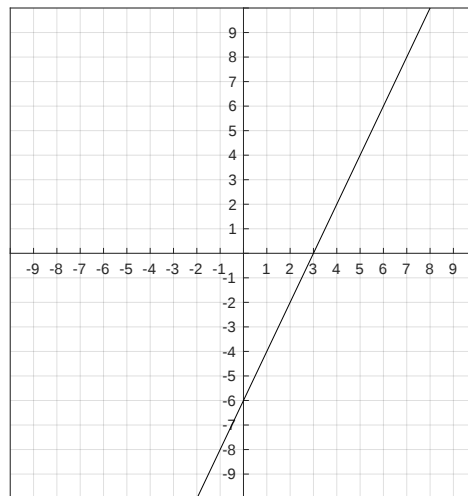
(b)

Answer: _____



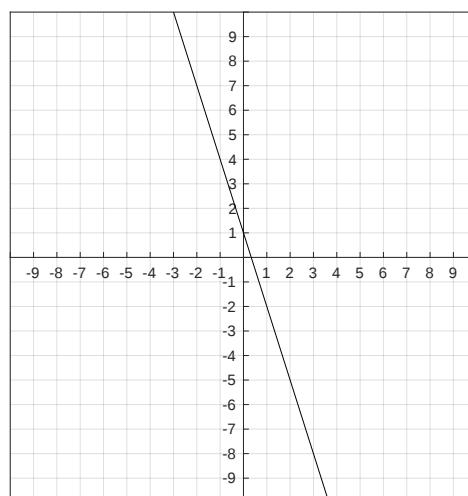
(c)

Answer: _____



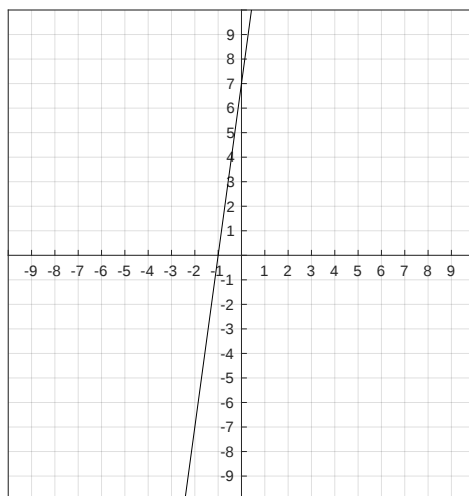
(d)

Answer: _____



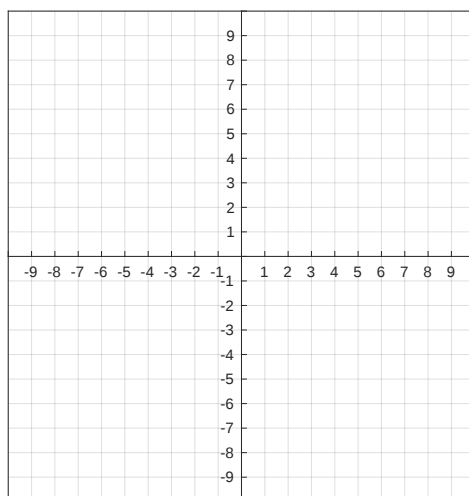
(e)

Answer: _____

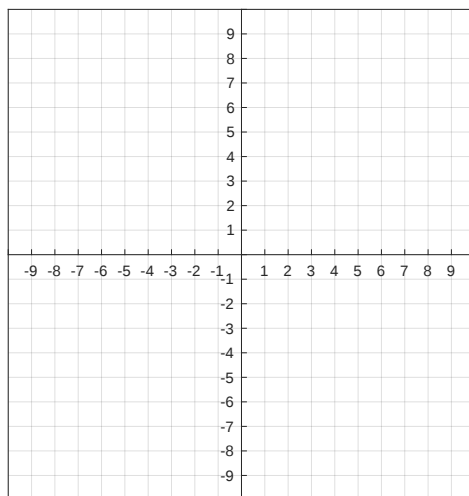


4. Plot the functions.

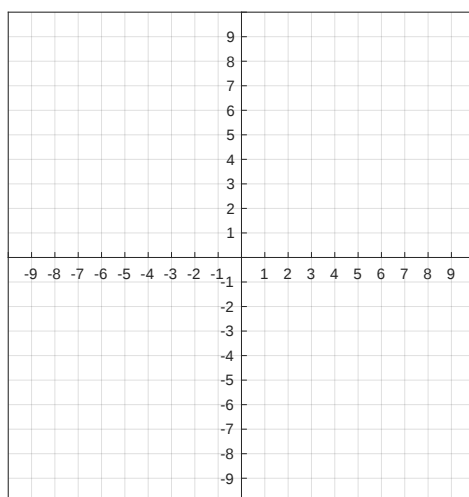
(a) $y = 5x - 2$



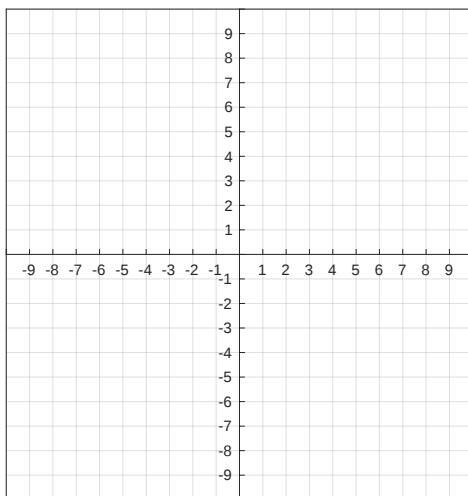
(b) $y = \frac{4}{5}x + 6$



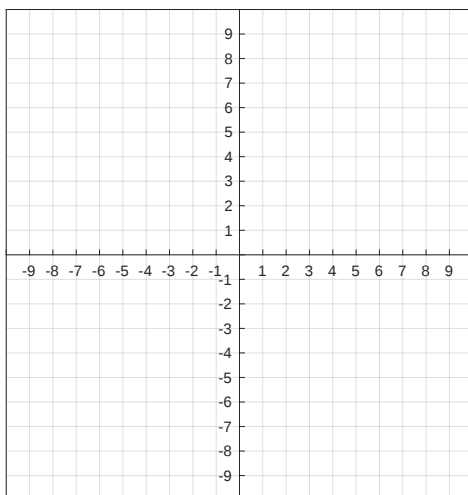
(c) $y = 3x + 1$



(d) $y = -5x + 3$



(e) $y = \frac{1}{3}x - 2$



5. For each part in Problem 3, use the graph to find $y(-4)$, $y(-2)$, $y(0)$, and $y(3)$. Write your answers beside the graphs.

6. For each part in Problem 4, use the equation to find $y(-4)$, $y(-2)$, $y(0)$, and $y(3)$. Write your answers beside the graphs.

7. Simplify the polynomials.

(a) $x^2 - 5x - 6x^2 + 7$

(b) $5(n + 12)$

(c) $2y(y + 2)$

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

(e) $5(a^2 - 2a + 1) - 2(a^2 - a)$

(f) $5k(k - 2k + 1) - 2(k^2 + k)$

The End.