

- Compute the least common multiple and greatest common factor of 250 and 120.
- Perform the following operations. Show all steps.

a) $\left(\frac{1}{2}\right)^0$	d) $2^{-2} \cdot 2^3$	g) $(3b - 1)^2$
b) $-4^0 - (-4)^0$	e) $2^{-2} + 2^3$	h) $(x + y)(x^3 - x^2y + xy^2 - y^3)$
c) $\left(\frac{2}{3}\right)^{-2}$	f) $\frac{a^{-2}b^5}{a^{-3}b^{-1}}$	i) $(2ab^{-2})^3(2a^{-2}b^3)^2$
		j) $(-2)^0 + (-2)^{-1} + (-2)^2 + (-2)^{-2}$
- Which of the following is NOT equivalent to $\frac{p^3q^{-4}}{x^{-5}y^2}$?

A) $\frac{p^3x^5}{q^4y^2}$	B) $p^3q^{-4}x^5y^{-2}$	C) $\frac{1}{p^{-3}q^4x^{-5}y^2}$	D) $\frac{q^{-4}y^{-2}}{p^{-3}x^{-5}}$	E) $\frac{p^3q^4}{x^5y^2}$
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| a) Simplify $(m + 5)^2$ | b) Simplify $(-m - 5)^2$ | c) What do you notice? Can you explain it? |
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- Factor completely each of the following polynomials.

a) $x^2y^2 - 81y^2$	b) $-3x - 3x^3$	c) $12ab^2 - 3a$	d) $m^4 - 1$
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- Factor each of the following by grouping.

a) $15am + 6an + 5bm + 2bn$	c) $3ax - 15ay - 2bx + 10by$
b) $6px^2 + 4qx^2 - 10aq - 15ap$	d) $ab - a + b - 1$
- Solve each of the following equations. Make sure to check your solutions.

a) $3x^3 = 48x$	c) $5 - (x - 2)^2 = -x^2 + 9$
b) $x^2 + 5x = 0$	d) $x + 5 - (3 - 2x)(x + 8) = 2(x + 4)^2 + 1$
- Solve the formula $3x - 7y = -42$

a) for x	b) for y
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- Solve each of the following inequalities. Graph the solution set.

a) $-a > 4 - (2a - 3)$	b) $\frac{-3 + 4x}{5} - \frac{x - 4}{2} \leq \frac{2x + 6}{10}$
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| a) Graph the straight line $y = \frac{1}{3}x - 2$. | b) Solve the inequality $\frac{1}{3}x - 2 > 0$ |
| c) How does the solution for the inequality in part b) show up on the graph in part a)? | |
- Word Problems
 - $\frac{2}{13}$ of a number is 18. Find this number.
 - The age of a father three years more than seven times the age of his daughter. The sum of their ages is 43. How old is the father?
 - Betty's overtime pay is one-and-half times her regular hourly wage. Overtime each week starts after 40 hours worked. Last week, Betty worked for 58 hours and earned \$804. What is her regular hourly wage?
 - Cecilia got a 5% raise. Now she makes \$2520 per month. How much was she making before the raise?