NAME: _____

DATE: _____

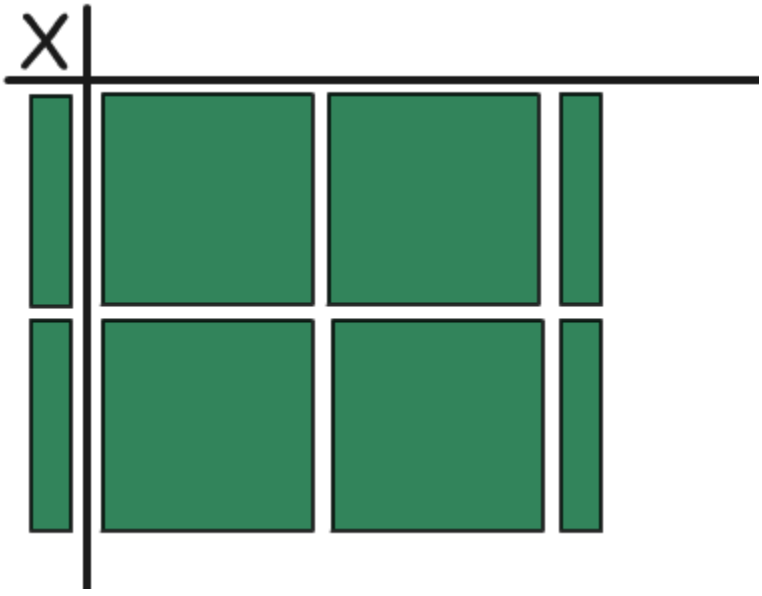
Dividing a Monomial by a Monomial

1. In your own words, describe how to divide a polynomial by a monomial using alge-tiles.

2. In your own words, describe how to divide a polynomial by a monomial algebraically.

3. Is there ever a case where we cannot divide a polynomial by a monomial? If yes, when? If no, why not?

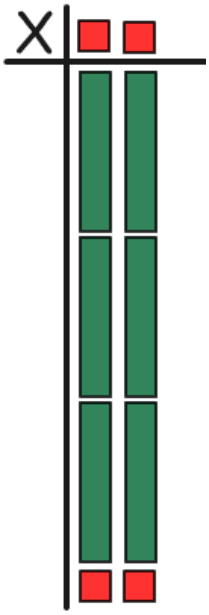
4. Use the following alge-tile representation for the questions below.

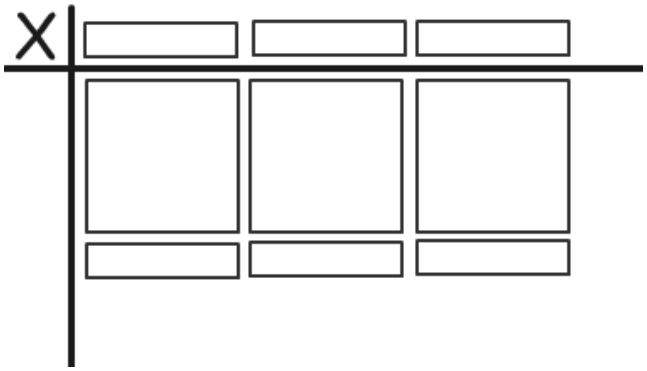


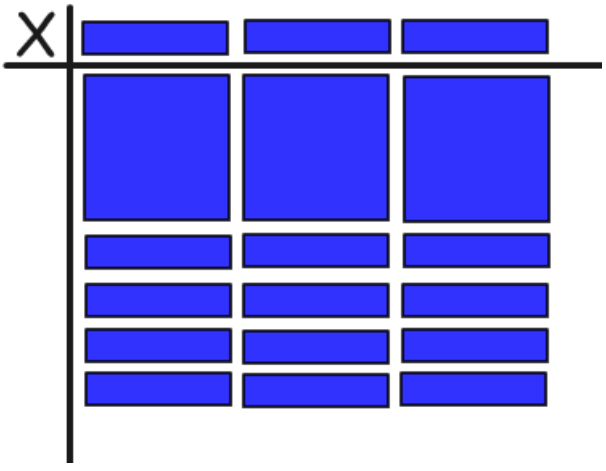
a. Write out the division expression.

b. Draw the alge-tiles to represent the missing quotient.
c. Algebraically, give the expression for the missing quotient.

5. Write out the division expression and find the quotient for each of the following.







6. Divide.

a. $\frac{3x+6}{3}$

b. $\frac{4x+8}{2}$

c. $\frac{8y^2+16y}{-4y}$

d. $\frac{-6p^2-6p}{2p}$

e. $\frac{-256n^3+64n^2}{-16n}$

f. $\frac{9m^3-18m}{3m}$

g. $\frac{25t^3+50t^4}{15t^3}$

h. $\frac{18c^2d^3-27cd^4}{9cd^2}$

i. $\frac{7a^2b^2c^2-21a^5b^4c^3}{7a^2b^2c^2}$

7. What happens when we see this?

a. $\frac{s^4t^2-1}{3s^4}$

b. $\frac{s^4t^2-6s^{10}t^6}{3s^5t^3}$

8. When you divide a polynomial by a monomial, how many terms will you have in your quotient?

9. Write down two monomials and two polynomials below. Each monomial should divide each polynomial evenly.
    a. Monomial 1: _____
    b. Monomial 2: _____
    c. Polynomial 1: _____
    d. Polynomial 2: _____

10. Divide Polynomial 2 by Monomial 1.

11. Divide Polynomial 1 by Monomial 2.

12. Can you divide your quotient from question 10 by Monomial 2?

13. Can you divide your quotient from question 11 by Monomial 1?