Grade 6 FAST Math Reference Sheet

Signed numbers

Subtract	**a − b = a + (−b)**
Same-sign product	**(−3)(−4) = 12**
Opposite-sign product	**(−3)(4) = −12**

The same sign rules apply to division by a nonzero number.
Absolute value is distance from zero.

Fraction operations

Add or subtract	**a/c ± b/c = (a ± b) / c**
Multiply	**(a/b) × (c/d) = ac/(bd)**
Divide	**(a/b) ÷ (c/d) = ad/(bc)**

Find a common denominator for addition or subtraction. Denominators and divisors cannot be zero.

Ratios and unit rates

Unit rate	**rate = amount / quantity**
Example	**$12 ÷ 3 kg = $4 per kg**
Proportional relation	**y = kx**

Name the units and keep the ratios in the same order.
k is the rate per one unit of x.

Percents

Percent as a decimal	**p% = p / 100**
Part of a whole	**part = rate × whole**

Use the decimal form for the rate.
Example: 15% of 80 is 0.15 × 80 = 12.

One-step equations

Undo addition	**x + 7 = 12; x = 5**
Undo multiplication	**4x = 20; x = 5**
Test an inequality	**5 > 3 is true**

Do the same operation to both sides of an equation.
Check an answer by substituting it for x.

Rectangular prism volume

Length by width by height	**V = Lwh**
Base area by height	**V = Bh**
Example: 5 by 3 by 2	**V = 30 units^3**

B is the area of one base. Volume counts cubic units.

Metric conversions

Length	**1 m = 100 cm = 1,000 mm**
Distance	**1 km = 1,000 m**
Capacity	**1 L = 1,000 mL**
Mass	**1 kg = 1,000 g; 1 g = 1,000 mg**

Use 100 centimeters per meter to change 2.4 m into 240 cm.

Center and spread

Mean	**sum / count**
Median	**middle of the ordered data**
Range	**maximum − minimum**

For an even count, the median is the mean of the two middle values.
Example: 1, 4, 7, 8 has median 5.5.