English Explanation cases:

**Minus**: Left - Right = Parent

* Part1

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| If your gross pay is 450 dollars , while your net pay is 315 dollars , how much do you pay in taxes? Assume that all tax dollars are not included in net pay.  Ans: Gross pay - taxes = Net pay  450 dollars - 315 dollars = 135 dollars |
| A textbook costs a bookstore 44 dollars , and the store sells it for 55 dollars. Find the amount of profit based on the selling price.  Ans: selling price = costs + profit  55 dollars - 44 dollars = 11 dollars |
| Chinese: |

**Mul:** With Child\_R, Subject verb #\_of\_L \* #\_of\_R = Parent

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| 1. Tammy drove 55 miles in one hour. At that rate, how far can she drive in 36 hours?  Ans:  With 36 hours, she can drive 55 \* 36 = 1980 miles |
| 5. It takes 4 apples to make 1 pie. How many apples does it take to make 504 pies?  Ans:  With 504 pies, it takes 4\* 504 = 2,016 apples. |
| Chinese: |

**UnitTrans:** 1 unit\_of\_Child is (#\_of\_Parent/#\_of\_Child) unit\_of\_Parent;   
therefore, Child is (#\_of\_Parent/#\_of\_Child) \* #\_of\_Child = Parent

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| Jeff swims 20 laps every day. How many laps will he swim in six weeks?  Ans:  1 week is 7 days; therefore, 6 weeks is 7 \* 6 = 42 days.  With 42 days, he will swim 20 \* 42 = 840 laps. |
| Mary Beth could jump 42 times each minute. How many times could she jump in two hours?  Ans:  1 hour is 60 minutes; therefore, 2 hours is 60 \* 2 = 120 minutes.  With 120 hours, she could jump 42 \* 120 = 5,040 times. |
| Rob could run 7 miles in one hour. At that rate, how far could Rob run in one day?  Ans:  1 day is 24 hours.  With 24 hours, he could run 7 \* 24 = 168 miles.  Chinese: |

**Sum:** Subject verb Child\_1 + Child\_2 + Child\_3 = Parent in total.

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| Sandy went to the mall to buy clothes . She spent $ 13.99 on shorts , $ 12.14 on a shirt , and $ 7.43 on a jacket . How much money did Sandy spend on clothes ?  Ans:  She spent $13.99 + $12.14 + $7.43 = $33.56 in total |
| Chinese: |

**CommonDiv**: Left is #\_of\_R times as large as the unknown;   
therefore, it is #\_of\_L ÷ #\_of\_R = Parent

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| The value of a sport utility vehicle this year is 16,000 dollars , which is 0.8 of what its value was last year. Find **the value** of the vehicle last year.  Ans: 0.8 \* last\_year = 16,000  16000 dollars is 0.8 times as large as the unknown; therefore, it is 16000 ÷ 0.8 = 20000 dollars |
| A 12 ounce can of cranberry juice sells for 84 cents. Give the **unit cost** in cents per ounce  Ans:  84 cents is 12 times as large as the unknown; therefore, it is 84 ÷ 12 = 7 cents/ounce |
| A car traveled 715 kilometers in 11 hours. What was **its** average speed?  Ans:  715 kilometers is 11 times as large as the unknown; therefore, it is 715 ÷ 11 = 65 kilometers/hours  Chinese: |

**FloorDiv:** if R = 0

Left is #\_of\_R times as large as the unknown;

therefore, it is #\_of\_L ÷ #\_of\_R = Parent

if R != 0:

Left is just more than #\_of\_R times than the unknown;

#\_of\_L ÷ #\_of\_R = Quotient … Remainder

therefore, it is Quotient + 1 = Parent

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| At the carnival , tickets for the rides are 0.75 dollars each , or you can buy an armband for 15 dollars and ride unlimited for one night. At how many rides does the armband cost the same as buying individual tickets?  Ans: 15 dollars is 0.75 times as large as the unknown; therefore, it is 15 ÷ 0.75 = 20 times  Chinese: |

Keywords for operations

<http://www.lamoure.k12.nd.us/pcarlson/files/2013/10/Key-Words-for-Math-Word-Problems.pdf>

**MIT's Algebra1**

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| You have 160 dollars and save 7 dollars per week. Your friend has 210 dollars and saves 5 dollars per week. After how many weeks will each of you have saved the same amount of money?  Ans:  160.0+(7.0\*week)=210.0+(5.0\*week)  week = 25 |
| For his long distance phone service Milan pays a 2 dollars monthly fee plus 12 cents per minute. Last month , Milan 's long distance bill was 23.36 dollars. For how many minutes was Milan billed for?  Ans:  2.0+((12.0\*0.01)\*minutes)=23.36  minutes = 178 |