

**PROBLEM-OF-THE-DAY: ALGEBRA 1****WEEK:** September 17 to September 21**DAY:** Friday

**RISD Objective:** Given a word problem that involves an initial condition and a constant rate of change, students will write a first-degree equation which models the situation and use it to solve the problem.

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**PROBLEM #24**

**Cabs-R-Us** charges riders a fee of \$1.25 plus \$0.15 per mile.  
**Taxis-R-Us** charges \$2.25 plus \$0.10 per mile. What distance would result in the same cost from each transportation service? Write an equation that models the information in the problem and use it to answer the question.

**MODEL SOLUTION #24**

**Let  $m$  = number of miles traveled**

**$0.15m + 1.25$  = cost to use Cabs-R-Us**

**$0.10m + 2.25$  = cost to use Taxis-R-Us**

$$0.15m + 1.25 = 0.10m + 2.25$$

$$15m + 125 = 10m + 225$$

$$5m + 125 = 225$$

$$5m = 100$$

$$m = 20$$

**For a 20-mile trip, the cost is the same for both services.**