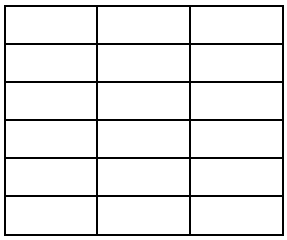
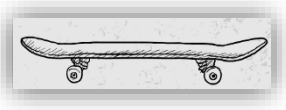
Island Numeracy Assessment

Computational Fluency B (multiplication/division) Grade 3+ (Answer Key)

Assessment Question	Answer Key
1. Solve the following question using two different strategies: 3 x 6 = Explain your strategies using words, pictures, and/or numbers and symbols. One way I solved the question: A second way I solved the question:	Groups of, arrays and repeated addition.  6 + 6 + 6 = 18 Look for invented flexible, efficient strategies. Students may compose a story-problem context to represent thinking visually
2. Choose a number of kids to be at the skateboard park.  Some of the children are riding skateboards and some of them are using scooters.  How many wheels are there all together? Write a number sentence to describe the situation. Repeat for other combinations of skateboards and scooters. (Adapted from Marian Small, Open Questions for Rich Math, 2016, p.125)	There are 13 people at the park. 3 people are riding scooters and the other 10 are riding skateboards. 3X2=6 10X4=40 40+6= 46 wheels 17 kids come to the skateboard park. 9 kids are riding scooters, 8 kids have skateboards. 9X2=18 8X4= 32 32 + 18 = 50 wheels 30 kids are at the park. All but one are riding skateboards. 29X4 = 116 116 + 2 = 118 wheels or 20 groups of 4 = 80 9 groups of 4 = 36 80+36 +2 = 118 wheels

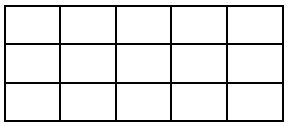
3. Solve the following question using two different strategies:

$$18 \div 3 =$$

Explain your strategies using words, pictures, and/or numbers and symbols.

One way I solved the question:	A second way I solved the question:

Draw an array or repeated subtraction, groups of, number line, bar model



18		
6	6	6

4 Some friends shared 36 Fun Fair tickets. Each person received the same number of tickets. How many friends might there have been? How many tickets did each friend receive? Draw a picture to show your answer. Show other possibilities.
(Adapted from Marian Small Open Questions for Rich Math, 2016, p.127)

You could have 4 friends with 9 tickets each.

2 friends with 18 tickets.

3 friends with 12 tickets each

6 friends with 6 tickets each

Look for invented flexible, efficient strategies.

The story-problem contexts can help students make sense of division.

In this situation student knows the number of tickets and is to represent fair shares.

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Performance Task:

East Lake School is fundraising. They are selling popcorn in recyclable paper buckets.
Their fundraising goal is $100.

Caramel Flavoured Popcorn $5 a bucket	Cheese Flavoured Popcorn $4 a bucket	Butter Flavoured Popcorn $3 a bucket

Sam sold 10 buckets of caramel-flavoured popcorn.

$50

Manjit sold 4 buckets of cheese-flavoured and 2 buckets of caramel-flavoured popcorn.

$16 + $10 = $26

Mark sold cheese-flavoured popcorn. He raised $32.00.

Ruby's mother bought 3 butter-flavoured buckets of popcorn to take home.

$3X 3 = $9

Did East Lake School reach its fundraising goal? Show your thinking below.

$50 + $26 + $32 + $9

$76 + $41 = $117

East Lake School met their goal of raising $100.

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Collaborative Task: (consider projecting image)

Your class photo is being taken today. Could your class be divided equally in three rows? What if some students were away? What if the photographer needed 4 rows? How many students would be in each row?

Show different ways to solve and explain your thinking.

Extension: What if two more students joined our class? What If all students were here today? What if we combined with a class from next door?

Sample responses:

There are 24 kids in my class today. With 4 benches, 6 kids can sit on each bench. We can divide into equal groups.

There are 19 students here today. We cannot divide up equally on 4 benches. There will always be people in uneven groups on the benches. If two more people joined we still would not divide equally. We could divide equally if 1 student joined the group.

If Division 14 joined our class of 24 we would have 24 +26 = 50 students. This number of students can not share 4 benches equally. The benches would be full and there would be 2 students left over. 48 students could divide into 12 equal rows.