Think Smart for the Smarter Balanced Assessment

- Smarter Balanced Assessment Item Types
- Countdown to SBAC
- Chapter Tests in SBAC Format
- Chapter Performance Tasks, Rubrics, and Student Work Samples
- Benchmark Tests with Performance Tasks

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- Question Analysis Charts
- Student Scoring Rubrics
- Technology-Enhanced Questions
- More Performance Tasks!
Countdown: 17 Weeks

1. The diagonal of a rectangular floor is $\sqrt{40}$ feet long. 8.NS.1

   **Part A:** Select all of the sets of numbers to which $\sqrt{40}$ belongs.
   - [ ] real
   - [ ] integer
   - [ ] rational
   - [ ] irrational
   - [ ] whole
   - [ ] natural

   **Part B:** Change one digit in $\sqrt{40}$ to a different digit so that the number belongs to a different set of numbers. Explain why changing that digit changes the sets to which the number belongs.

2. The formula $t = \sqrt{\frac{h}{16}}$ represents the time $t$ in seconds that it takes an object to fall from a height of $h$ feet. A rock is dropped from a height of 80 feet. 8.NS.2

   **Part A:** Graph on the number line a point that is an estimate of the time it takes the rock to fall to the ground.

   1 1.5 2 2.5 3 3.5 4

   **Part B:** To the nearest second, how long did it take the rock to fall?
3. The populations of five Asian capital cities are shown in the table. Order the cities from least to greatest population. 8.EE.3, 8.EE.4

<table>
<thead>
<tr>
<th>City</th>
<th>Population in 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok, Thailand</td>
<td>$8.25 \times 10^6$</td>
</tr>
<tr>
<td>Beijing, China</td>
<td>$2.02 \times 10^7$</td>
</tr>
<tr>
<td>Manila, Philippines</td>
<td>$1.65 \times 10^6$</td>
</tr>
<tr>
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Think Smart for SBAC
On the actual test, you might be asked to drag the city names into the spaces in the table. In this book, you will be asked to write in the table instead.

4. Anju purchased a storage cube that has a volume of 10 cubic feet. She wants to put it on a shelf on her wall that is 24 inches below the ceiling. Will the cube fit? Explain your reasoning. 8.EE.2

5. Angelo and Deborah are landscapers. Angelo charges $45.50 for each job plus $15 an hour. Deborah charges $20.50 for each job plus $20 an hour. Select whether each statement is true or false. 8.EE.7, 8.EE.7b

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
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</thead>
<tbody>
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### Countdown: 17 Weeks

1. The diagonal of a rectangular floor is \( \sqrt{40} \) feet long. 8.NS.1
   - **Part A:** Select all of the sets of numbers to which \( \sqrt{40} \) belongs.
     - ☐ real
     - ☐ integer
     - ☐ rational
     - ☐ irrational
     - ☐ whole
     - ☐ natural
   - **Part B:** Change one digit in \( \sqrt{40} \) to a different digit so that the number belongs to a different set of numbers. Explain why changing that digit changes the sets to which the number belongs.

   **Sample answer:** \( \sqrt{49} \); The number is still a real number, but it is no longer irrational. Since 49 is a perfect square, and the square root of 49 is equal to 7, the number is now an integer, a rational number, a whole number, and a natural number.

2. The formula \( t = \sqrt{\frac{h}{16}} \) represents the time \( t \) in seconds that it takes an object to fall from a height of \( h \) feet. A rock is dropped from a height of 80 feet. 8.NS.2
   - **Part A:** Graph on the number line a point that is an estimate of the time it takes the rock to fall to the ground.
     - \( \sqrt{4} \)
     - \( \sqrt{16} \)
   - **Part B:** To the nearest second, how long did it take the rock to fall?
     - 2 seconds

3. The populations of five Asian capital cities are shown in the table. Order the cities from least to greatest population. 8.EE.3, 8.EE.4

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4. Anju purchased a storage cube that has a volume of 10 cubic feet. She wants to put it on a shelf on her wall that is 24 inches below the ceiling. Will the cube fit? Explain your reasoning. 8.EE.2
   - **Sample answer:** 24 in. = 2 ft, and the cube root of 8 is 2. The side length of the storage box is the cube root of 10, and the cube root of 10 is greater than the cube root of 8, or 2. So, the storage cube has a height greater than 2 ft. It will not fit.

5. Angelo and Deborah are landscapers. Angelo charges $45.50 for each job plus $15 an hour. Deborah charges $20.50 for each job plus $20 an hour. Select whether each statement is true or false. 8.EE.7b
   - **True**
     - ☐ For 2 hours of work, Angelo charges more.
     - ☐ For 6 hours of work, Deborah charges less.
   - **False**
     - ☐ The equation \( 45.5x + 15 = 20.5x + 20 \) can be solved to find the number of hours for which the total cost is the same to hire either landscaper.
     - ☐ Both landscapers charge the same amount for a 5-hour job.