Just In Time Quick Check
Standard of Learning (SOL) 8.3b

Strand: Number and Number Sense
Standard of Learning (SOL) 8.3b *The student will determine both the positive and negative roots of a given perfect square.*
Grade Level Skills: ● Determine the positive or negative square root of a given perfect square from 1 to 400.
Just in Time Quick Check
Just in Time Quick Check Teacher Notes

Supporting Resources:
● VDOE Mathematics Instructional Plans (MIPS)
  ○ Where do they lie? (word) /(PDF)
● VDOE Algebra Readiness Formative Assessments
  ○ SOL 8.3a,b (word) / (PDF)
● VDOE Algebra Readiness Remediation Plans
  ○ Square Roots (word) / (PDF)
● VDOE Word Wall Cards: Grade 8 (word) / (PDF)
  ○ Square Root – Definition
● Desmos Activity
  ○ Square Tango

Supporting and Prerequisite SOL: 7.1d, 6.4

SOL 8.3b - Just in Time Quick Check

1) Determine if the following statements are true or false. Justify your reasoning for each statement.

Statement	True or False	Justification
$-\sqrt{9} = -81$		
$14 = -\sqrt{196}$		
$3 = \sqrt{6}$		
$-19 = -\sqrt{361}$		

2) Determine each square root.

a) $\sqrt{169}$

b) $-\sqrt{49}$

c) $\sqrt{289}$

d) $-\sqrt{225}$

3) Amy has a square bedroom. It has an area of 324 square feet. What is the length of each side of the room? Justify your answer.

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Statement	True or False	Justification
$-\sqrt{9} = -81$		
$14 = -\sqrt{196}$		
$3 = \sqrt{6}$		
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A common error students may make for the first statement is recognizing there is a perfect square relationship between 9 and 81 but and saying that statement is true. The radical would need to be over the 81 for the statement to be true. This indicates students may need more understanding of the radical symbol. Teachers may want to spend more practice with students breaking apart the value under the radical sign. For example: $\sqrt{49} = \sqrt{7(7)} = 7$.

A common error with the third statement is students dividing 6 by 2 to get 3 and saying the statement is true. This may indicate students need to explore square roots. Teachers may consider using area models to explore square roots. Refer to Grade 7 Curriculum Framework (see SOL 7.1d).

A common error for the second and fourth statements may be ignoring the negative before the radical. This may indicate students need more practice with negative square roots. Teachers may consider working backwards and look at where the perfect squares come from before finding the square roots. For example: $36 = 6(6) = 6^2$ and $36 = (-6)(-6) = (-6)^2$. Therefore both 6 and (-6) are square roots of 36 and the negative in front of the radical indicates that it is evaluating the negative square root.

2) Determine each square root.

   a) $\sqrt{169}$

   b) $-\sqrt{49}$

   c) $\sqrt{289}$

   d) $-\sqrt{225}$

3) Amy has a square bedroom. It has an area of 324 square feet. What is the length of each side of the room? Justify your answer.