

Grade 8 Mathematics Sample TE Item

**MAT.08.TE.1.000EE.B.323**

Sample Item ID:	<b>MAT.08.TE.1.000EE.B.323</b>
Grade:	08
Claim(s):	<b>Claim 1: Concepts and Procedures</b> Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.
Assessment Target(s):	<b>1 B:</b> Work with radicals and integer exponents.
Content Domain:	Expressions and Equations
Standard(s):	8.EE.2
Mathematical Practice(s):	6
DOK:	1
Item Type:	TE
Score Points:	2
Difficulty:	M
Key:	See Sample Top-Score Response and TE Information.
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	Calculators are not available for this item. Click and drag functionality will be adapted to a tab functionality for accessibility considerations.
Notes:	TE template: Classification

Classify the numbers in the box as perfect squares and perfect cubes. To classify a number, drag it to the appropriate column in the chart. Numbers that are neither perfect squares nor perfect cubes should **not** be placed in the chart.

1    64    96    125    200    256    333    361
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<b>Perfect Squares but Not Perfect Cubes</b>	<b>Both Perfect Squares and Perfect Cubes</b>	<b>Perfect Cubes but Not Perfect Squares</b>

*Sample Top-Score Response:*

<b>Perfect Squares but Not Perfect Cubes</b>	<b>Both Perfect Squares and Perfect Cubes</b>	<b>Perfect Cubes but Not Perfect Squares</b>
256	1	125
361	64	

*Scoring Rubric:*

See TE information.

Responses to this item will receive 0-2 points, based on the following:

**2 points:** The student shows a thorough understanding of classifying positive integers as perfect squares, perfect cubes, or neither. The student places all the perfect squares and perfect cubes in the correct regions of the table and does not identify any of the other numbers as perfect squares or perfect cubes.

**1 point:** The student shows a partial understanding of classifying positive integers as perfect squares, perfect cubes, or neither. The student places all the perfect squares and perfect cubes in the table but makes one or two errors by not realizing that 1 and 64 are both perfect squares and perfect cubes.

**0 points:** The student shows inconsistent or no understanding of classifying positive integers as perfect squares, perfect cubes, or neither. The student misclassifies perfect squares as perfect cubes, perfect cubes as perfect squares, or identifies numbers that are neither perfect squares or perfect cubes as perfect squares or perfect cubes.

*TE Information:*

**Item Code:** MAT.08.TE.1.000EE.B.323

**Template:** Classification

**Interaction Space Parameters:**

- A. The 3 sections of the Venn diagram: perfect squares only, both perfect squares and perfect cubes, perfect cubes only
- B. The following 8 numbers: 1, 64, 96, 125, 200, 256, 333, and 361.

**Scoring Data:**

$$\{1=FH, 2=AB, 3=D\}=2$$

$$\{1=ABFH, 3=D\}=1$$

$$\{1=FH, 3=ABD\}=1$$

$$\{1=AFH, 3=BD\}=1$$

$$\{1=BFH, 3=AD\}=1$$