


Exhibit 1.11: Description of the TIMSS 2019 Intermediate International Benchmark (475) of Mathematics Achievement **Intermediate** International Benchmark**475 Summary**

Students can apply basic mathematical knowledge in simple situations. They can compute with three- and four-digit whole numbers in a variety of situations. They have some understanding of decimals and fractions. Students can identify and draw shapes with simple properties. They can read, label, and interpret information in graphs and tables.

Students at this level demonstrate an understanding of four-digit whole numbers. They can add and subtract four-digit numbers in a variety of situations, including problems involving two steps. Students can multiply and divide three-digit numbers by a one-digit number. They can identify expressions representing simple situations. Students at this level can add and order decimals and work with non-unit fractions.

Students can solve simple measurement problems such as identifying the appropriate metric unit for linear objects and volume. Students can solve addition and subtraction problems involving hours and minutes. They can identify and draw shapes with simple properties and relate two- and three-dimensional shapes.

Students can read, label, and interpret information in graphs and tables.



Exhibit 1.11.1: Intermediate International Benchmark of Mathematics Achievement – Example Item 1

Content Domain: Measurement and Geometry

Cognitive Domain: Applying

Description: Completes a symmetric figure on a square grid given half the shape and the line of symmetry

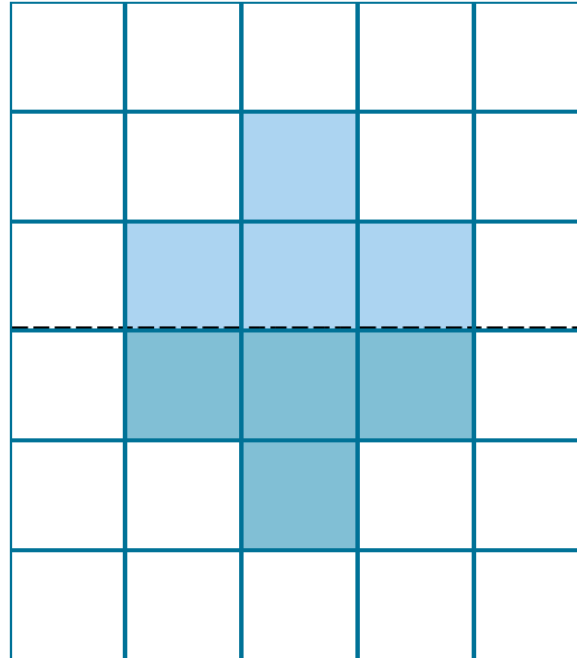
| Country | Percent Full Credit |
|----------------------------------|---------------------|
| ³ Singapore | 97 (0.7) ▲ |
| Cyprus | 93 (1.2) ▲ |
| Ireland | 92 (1.4) ▲ |
| [†] Northern Ireland | 91 (1.6) ▲ |
| [†] Denmark | 91 (1.5) ▲ |
| [†] Hong Kong SAR | 90 (1.9) ▲ |
| [≡] Netherlands | 90 (1.3) ▲ |
| Malta | 90 (1.4) ▲ |
| Albania | 90 (1.8) ▲ |
| Poland | 90 (1.2) ▲ |
| [†] Belgium (Flemish) | 89 (1.5) ▲ |
| ² Latvia | 89 (1.6) ▲ |
| ² England | 88 (1.8) ▲ |
| [†] Norway (5) | 88 (1.9) ▲ |
| Australia | 86 (1.8) ▲ |
| ² Lithuania | 86 (1.7) ▲ |
| ² Kosovo | 86 (1.9) ▲ |
| Germany | 85 (1.8) ▲ |
| ² Kazakhstan | 84 (1.7) ▲ |
| ² Portugal | 84 (2.0) ▲ |
| Finland | 82 (1.8) ▲ |
| Hungary | 81 (1.7) ▲ |
| Morocco | 81 (1.9) ▲ |
| Azerbaijan | 79 (2.0) ▲ |
| ² New Zealand | 79 (1.9) ▲ |
| Bulgaria | 78 (2.4) ▲ |
| North Macedonia | 77 (2.4) ▲ |
| ² Russian Federation | 77 (2.3) ▲ |
| Austria | 77 (1.9) ▲ |
| Sweden | 76 (2.2) ▲ |
| Italy | 73 (2.5) |
| ^{1,2} Canada | 72 (1.8) |
| France | 72 (2.4) |
| International Average | 70 (0.3) |
| Oman | 70 (2.0) |
| Korea, Rep. of | 69 (2.3) |
| Iran, Islamic Rep. of | 68 (2.2) |
| ² Turkey (5) | 67 (2.7) |
| Czech Republic | 66 (2.6) |
| Spain | 65 (2.5) ▼ |
| ² Slovak Republic | 62 (2.8) ▼ |
| ^{2†} United States | 60 (1.5) ▼ |
| Chinese Taipei | 59 (2.4) ▼ |
| ² Serbia | 58 (2.5) ▼ |
| Bahrain | 57 (2.4) ▼ |
| Japan | 56 (2.5) ▼ |
| United Arab Emirates | 55 (1.2) ▼ |
| Croatia | 54 (2.9) ▼ |
| South Africa (5) | 54 (1.9) ▼ |
| Kuwait | 52 (2.6) ▼ |
| Montenegro | 52 (2.0) ▼ |
| Chile | 51 (2.6) ▼ |
| Armenia | 49 (2.5) ▼ |
| Qatar | 41 (2.6) ▼ |
| ² Saudi Arabia | 40 (1.9) ▼ |
| ¹ Georgia | 31 (2.7) ▼ |
| Bosnia and Herzegovina | 30 (2.0) ▼ |
| ² Pakistan | 18 (4.7) ▼ |
| ² Philippines | 13 (1.9) ▼ |
| Benchmarking Participants | |
| Moscow City, Russian Fed. | 90 (1.6) ▲ |
| Quebec, Canada | 83 (2.2) ▲ |
| ² Ontario, Canada | 74 (3.1) |
| ² Dubai, UAE | 73 (1.5) |
| Madrid, Spain | 65 (3.1) |
| Abu Dhabi, UAE | 45 (2.1) ▼ |

▲ Percent significantly higher than international average

▼ Percent significantly lower than international average

See Appendix B.2 for population coverage notes 1, 2, and 3. See Appendix B.5 for sampling guidelines and sampling participation notes †, ‡, and ≡. () Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Complete this figure so the dashed line is a line of symmetry.
Click squares on the grid.



The answer shown illustrates the type of response that would receive full credit (1 point).

Exhibit 1.11.2: Intermediate International Benchmark of Mathematics Achievement – Example Item 2

Content Domain: Data
Cognitive Domain: Knowing
Description: Reads data from a line graph

| Country | Percent Full Credit |
|----------------------------------|---------------------|
| Japan | 95 (0.9) ▲ |
| ³ Singapore | 92 (0.9) ▲ |
| Chinese Taipei | 92 (1.3) ▲ |
| Korea, Rep. of | 91 (1.3) ▲ |
| ² England | 91 (1.5) ▲ |
| [≠] Netherlands | 91 (1.4) ▲ |
| † Hong Kong SAR | 91 (1.5) ▲ |
| † Norway (5) | 88 (1.7) ▲ |
| † Northern Ireland | 87 (1.8) ▲ |
| ² Russian Federation | 87 (1.5) ▲ |
| Sweden | 86 (1.9) ▲ |
| Finland | 86 (1.6) ▲ |
| † Belgium (Flemish) | 86 (1.6) ▲ |
| ² Lithuania | 84 (1.7) ▲ |
| † Denmark | 84 (1.7) ▲ |
| Australia | 84 (1.6) ▲ |
| ² Portugal | 82 (1.6) ▲ |
| ² Latvia | 81 (2.0) ▲ |
| Ireland | 80 (1.6) ▲ |
| Azerbaijan | 79 (2.0) ▲ |
| ^{2†} United States | 79 (1.4) ▲ |
| Spain | 78 (2.5) ▲ |
| ² New Zealand | 77 (1.7) ▲ |
| Hungary | 76 (1.9) ▲ |
| ¹² Canada | 76 (1.3) ▲ |
| Cyprus | 75 (1.7) ▲ |
| Malta | 74 (2.0) ▲ |
| Czech Republic | 73 (2.2) ▲ |
| Germany | 71 (2.0) |
| Austria | 70 (2.4) |
| ² Slovak Republic | 70 (2.2) |
| Italy | 69 (2.5) |
| ² Turkey (5) | 69 (2.4) |
| France | 68 (2.6) |
| International Average | 68 (0.3) |
| Albania | 68 (2.2) |
| ² Serbia | 66 (2.7) |
| Poland | 65 (2.2) |
| ² Kazakhstan | 64 (2.2) |
| Bahrain | 63 (1.8) ▼ |
| United Arab Emirates | 62 (0.8) ▼ |
| Bulgaria | 62 (2.8) ▼ |
| Chile | 61 (2.2) ▼ |
| Qatar | 60 (2.3) ▼ |
| Croatia | 59 (3.2) ▼ |
| North Macedonia | 52 (2.8) ▼ |
| South Africa (5) | 52 (1.8) ▼ |
| Iran, Islamic Rep. of | 50 (2.4) ▼ |
| ¹ Georgia | 48 (2.9) ▼ |
| Oman | 45 (2.0) ▼ |
| ² Kosovo | 43 (2.8) ▼ |
| Armenia | 42 (2.1) ▼ |
| Montenegro | 41 (1.8) ▼ |
| Kuwait | 40 (2.6) ▼ |
| ² Saudi Arabia | 34 (1.8) ▼ |
| Morocco | 32 (2.5) ▼ |
| Bosnia and Herzegovina | 32 (1.8) ▼ |
| ² Philippines | 28 (2.1) ▼ |
| ² Pakistan | 21 (4.2) ▼ |
| Benchmarking Participants | |
| Moscow City, Russian Fed. | 95 (1.1) ▲ |
| Quebec, Canada | 84 (1.9) ▲ |
| ² Dubai, UAE | 81 (1.2) ▲ |
| Madrid, Spain | 80 (2.1) ▲ |
| ² Ontario, Canada | 75 (2.1) ▲ |
| Abu Dhabi, UAE | 52 (1.2) ▼ |

▲ Percent significantly higher than international average
▼ Percent significantly lower than international average

The graph shows the water level in a dam for 10 weeks.

Water Level in the Dam

What was the water level for week 8?

Answer: m

The answer shown illustrates the type of response that would receive full credit (1 point).

See Appendix B.2 for population coverage notes 1, 2, and 3. See Appendix B.5 for sampling guidelines and sampling participation notes †, ‡, and ≠.
() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.