Name _____   Date _____

1. Convert and write an equation with an exponent. Use your meter strip when it helps you.

    a.   2 meters to centimeters   2m = 200 cm   _____ $2 \times 10^2 = 200$ _____

    b.   108 centimeters to meters   108 cm = _____ m   _____

    c.   2.49 meters to centimeters   _____ m = _____ cm   _____

    d.   50 centimeters to meters   _____ cm = _____ m   _____

    e.   6.3 meters to centimeters   _____ m = _____ cm   _____

    f.   7 centimeters to meters   _____ cm = _____ m   _____

    g.   In the space below, list the letters of the problems where smaller units are converted to larger units.

2. Convert using an equation with an exponent. Use your meter strip when it helps you.

    a.   4 meters to millimeters   _____ m = _____ mm   _____

    b.   1.7 meters to millimeters   _____ m = _____ mm   _____

    c.   1,050 millimeters to meters   _____ mm = _____ m   _____

    d.   65 millimeters to meters   _____ mm = _____ m   _____

    e.   4.92 meters to millimeters   _____ m = _____ mm   _____

    f.   3 millimeters to meters   _____ mm = _____ m   _____

    g.   In the space below, list the letters of the problems where larger units are converted to smaller units.

3. Read each aloud as you write the equivalent measures. Write an equation with an exponent you might use to convert.

   a. 2.638 m   = _____ mm $\underline{\quad 2.638 \times 10^3 = 2,638 \quad}$

   b. 7 cm   = _____ m   _____

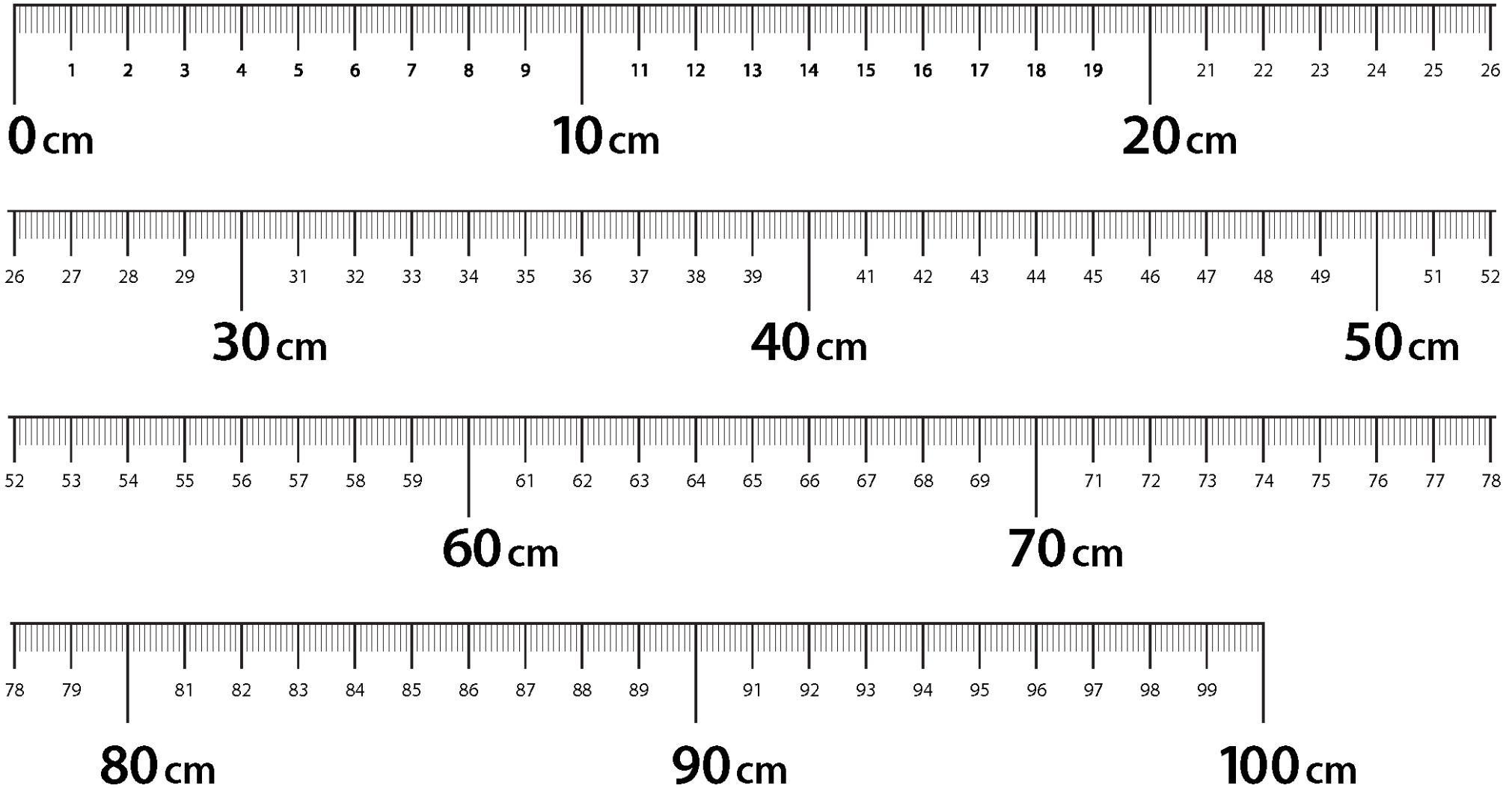   c. 39 mm   = _____ m   _____

   d. 0.08 m   = _____ mm   _____

   e. 0.005 m   = _____ cm   _____

4. Yi Ting's height is 1.49 m. Express this measurement in millimeters. Explain your thinking. Include an equation with an exponent in your explanation.

5. A ladybug's length measures 2 cm. Express this measurement in meters. Explain your thinking. Include an equation with an exponent in your explanation.

6. The length of a sticky note measures 77 millimeters. Express this length in meters. Explain your thinking. Include an equation with an exponent in your explanation.

meter strip

Lesson 4: Use exponents to denote powers of 10 with application to metric conversions.

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