# ML8 Chapter 12 Warm-Up Answers

**BLM 12–3 Chapter 12 Warm-Up**

**Section 12.1**

**1.**

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **breakfast** | B, 1 | B, 2 | B, 3 | B, 4 | B, 5 | B, 6 |
| **lunch** | L, 1 | L, 2 | L, 3 | L, 4 | L, 5 | L, 6 |
| **dinner** | D, 1 | D, 2 | D, 3 | D, 4 | D, 5 | D, 6 |
| **snack** | S, 1 | S, 2 | S, 3 | S, 4 | S, 5 | S, 6 |

24 possible outcomes

**2.** $4 \times 6 = 24$

**3.** $\frac{1}{24}$

**4.** $\frac{1}{4} \times \frac{1}{6} = \frac{1}{24}$

**5.** $\frac{2}{4} \times \frac{3}{6} = \frac{6}{24} = \frac{1}{4}$

**6.** $t = 8$

**7.** $t = -8$

**8.** $t = 8$

**9.** $t = 72$

**10.** $t = -72$

**Section 12.2**

**1.** Yes, isosceles triangles can tessellate the plane.

**2.** Yes, four 90° angles add up to 360°.

**3.** No, 135° angles do not add up to 360°.

**4.**

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **1** | 1, 1 | 1, 2 | 1, 3 | 1, 4 |
| **3** | 3, 1 | 3, 2 | 3, 3 | 3, 4 |
| **5** | 5, 1 | 5, 2 | 5, 3 | 5, 4 |
| **7** | 7, 1 | 7, 2 | 7, 3 | 7, 4 |
| **9** | 9, 1 | 9, 2 | 9, 3 | 9, 4 |

$P$(2 odd numbers) = $\frac{10}{20} = \frac{1}{2}$

**5.** $P$(2 odd numbers) = $\frac{2}{4} \times \frac{5}{5} = \frac{10}{20} = \frac{1}{2}$

This could also be done using a tree diagram.

**6.** triangular

**7.** 2.0 : 2.4 = 1 : 1.2

**8.** Answers will vary. Example: Front-end estimation: $2 \times 2 \div 2 \times 3 = 6$ m$^3$

**9.** Answers will vary. Example: Work with 5s: $2 \times 2.5 \div 2 \times 3 = 5.0 \div 2 \times 3 = 7.5$ m$^3$

**10.** Answers will vary. Example:
triangular top/bottom = $2 \times 2.5 \div 2 \times 2 = 5$ m$^2$
rectangular sides = $3 \times 2.5 \times 2 = 15$ m$^2$
rectangular end = $2 \times 3 = 6$ m$^2$
$5 + 15 + 6 = 26$ m$^2$

**Section 12.3**

**1.** The tessellation is made from a tile consisting of three identical rectangles. The combined tile is then rotated 90° and translated horizontally and vertically.

**2.** No.

**3.** Answers will vary. Examples could include an equilateral triangle, isosceles triangle, square, regular hexagon, some irregular quadrilaterals and hexagons, and one irregular pentagon.

**4.** 11 : 11 : 8

**5.** 484 m$^3$

**6.** 115%, $1\frac{3}{20}$

**7.** 2.53, $2\frac{53}{100}$

**8.** 0.875, 87.5%

**9.** 1% = 50
0.5% = 25
100.5% = 5025

**10. a)** 100 **b)** 400 **c)** 900

**Section 12.4**

**1.** This is a regular 12-sided polygon.

**2.** The polygon has been rotated and then translated vertically and horizontally.

**3.** Answers will vary. Example: If the angles do not add to 360°, the polygons will overlap or there will be gaps.

**4.** 33 : 44 = 3 : 4

**5.** 55 m. Note: Students who recognize this as a 3, 4, 5 Pythagorean triple may be able to do this mentally.

**6.** $9 \times 9 = 81$

**7.** $6 \times 6 = 36$
$10 \times 10 = 100$ $7 \times 7 = 49$
$\sqrt{92} \approx 9.6$ $\sqrt{45} \approx 6.7$

**8.** $7 \times 7 = 49$

**9.** 5

**10.** 11
$8 \times 8 = 64$
$\sqrt{63} \approx 7.9$