

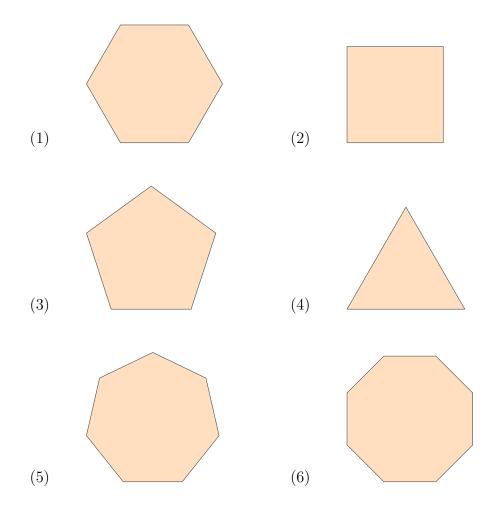


Regular polygon properties

Name	Date

Find the following characteristics of a regular polygon:

- a) How many sides does a figure have?
- b) How many different diagonals does a figure have?
- c) What is the minimal rotation angle in degrees preserving a figure?
- d) If a side of a polygon equals 1 m, calculate circumference (P) and area (S)
- e) Recognize a figure







Answers

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(1) a) 6; b) 9; c) 60; c)
$$P = 6$$
, $S = \frac{3\sqrt{3}}{2}$ d) hexagon

(2) a) 4; b) 2; c) 90; c)
$$P = 4$$
, $S = 1$; d) square

(3) a) 5; b) 5; c) 72; c)
$$P = 5$$
, $S = \frac{5}{4\sqrt{5-2\sqrt{5}}}$ d) pentagon

(4) a) 3; b) 0; c) 120; c)
$$P = 3$$
, $S = \frac{\sqrt{3}}{4}$; d) triangle

(5) a) 7; b) 14; c) 51.4; c)
$$P = 7$$
, $S = \frac{7}{4} \cos \frac{\pi}{7}$ d) heptagon

(6) a) 8; b) 20; c) 45; c)
$$P = 8$$
, $S = 2\cos\frac{\pi}{8}$ d) octagon