

10.1 Area and Perimeter of Rectangles

Answers

1. $A = 144 \text{ in}^2$, $P = 48 \text{ in}$
2. $A = 144 \text{ cm}^2$, $P = 50 \text{ cm}$
3. $A = 112 \text{ u}^2$, $P = 44 \text{ u}$
4. $A = 324 \text{ ft}^2$, $P = 72 \text{ ft}$
5. $P = 36 \text{ ft}$
6. $A = 36 \text{ in}^2$
7. **Possible Answers:** 10×6 , 12×4
8. **Possible Answers:** 9×10 , 3×30
9. False
10. $A = 357 \text{ in}^2$, $P = 76 \text{ in}$

10.2 Area of a Parallelogram

Answers

1. 360 m^2
2. 180 m^2
3. 1320 m^2
4. 672 m^2
5. 250 m^2
6. 60 u^2
7. 66 u^2
8. 143 u^2
9. 16 u^2
10. $18\sqrt{2} \text{ u}^2$
11. 14 u^2
12. 44 u^2
13. 7 units
14. 8 units
15. 12 units
16. 2.5 units

10.3 Area and Perimeter of Triangles

Answers

1. $8\sqrt{2}$ cm
2. $P \approx 54.9$ cm
3. $A \approx 135.8$ cm²
4. 315 u²
5. 6 m
6. 30-60-90 triangle, $AD = 4$, $BD = 4\sqrt{3}$
7. $16\sqrt{3}$
8. $AD = \frac{x}{2}$, $BD = \frac{x}{2}\sqrt{3}$
9. $\frac{x^2\sqrt{3}}{4}$
10. $36\sqrt{3}$
11. $6.25\sqrt{3}$

10.4 Area of Composite Shapes

Answers

1. $144 u^2$
2. $18 u^2$
3. $72 u^2$
4. $72 u^2$
5. $21 u^2$
6. $27 u^2$
7. $22 u^2$
8. $70 u^2$
9. $13.5 u^2$
10. $112.5 u^2$
11. $56 u^2$
12. $21 u^2$
13. $25 u^2$
14. $15 u^2$
15. $55 u^2$

10.5 Area and Perimeter of Trapezoids

Answers

1. $A = 108 \text{ u}^2$, $P = 104$ units
2. $A = 685.89 \text{ u}^2$, $P = 116$ units
3. 15 in^2
4. 35 in^2
5. 36 in^2
6. 135 in^2
7. 283.5 in^2
8. 6.5 in^2
9. 160 in^2
10. 380 in^2
11. 68.42 units
12. 246 u^2
13. 31.66 units
14. 42 u^2
15. 14.62 units
16. 5.77 u^2

10.6 Area and Perimeter of Rhombuses and Kites

Answers

1. If a kite and a rhombus have the same diagonal lengths the areas will be the same. This is because both formulas are dependent upon the diagonals. This does not mean the two shapes are congruent, however.
2. $160 u^2$
3. $96 u^2$
4. $173.21 u^2$
5. $84 u^2$
6. $1000 u^2$
7. $63 u^2$
8. $62.5 u^2$
9. $A = 480 \text{ units}^2$, $P = 104 \text{ units}$
10. $A = 119.29 \text{ units}^2$, $P = 52 \text{ units}$
11. $A = 572.43 \text{ units}^2$, $P = 96 \text{ units}$
12. 64
13. 8×8 , 4×16
14. 108
15. 12×9 , 6×18
16. 10 cm and 6 cm
17. 30 cm^2
18. 90 cm^2

10.7 Area and Perimeter of Similar Polygons

Answers

1. $\frac{9}{25}$
2. $\frac{1}{16}$
3. $\frac{49}{4}$
4. $\frac{36}{121}$
5. $\frac{1}{6}$
6. $\frac{2}{9}$
7. $\frac{7}{3}$
8. $\frac{5}{12}$
9. $\frac{1}{4}$
10. $\frac{1}{2}$
11. $5 u^2$
12. $24 u$
13. $12, 8$
14. $\frac{2}{3}$
15. $\frac{2}{3}$
16. $4, 9$
17. $\frac{4}{9}$
18. $3\sqrt{2}, 2\sqrt{2}, \frac{2}{3}$, the same as the scale factor.
19. $96 u^2$
20. 198ft^2

21. 54 in
22. 32 units
23. $\frac{4}{9}$
24. $\frac{2}{3}$
25. Diagonals are 12 and 16. The length of the sides are $12\sqrt{2}$ and $16\sqrt{2}$.
26. Because the diagonals of these rhombi are congruent, the rhombi are actually squares.

10.8 Circumference

Answers

1. 15, 7.5, 15π
2. 8, 4, 8π
3. 6, 3, 6π
4. 84, 42, 84π
5. 18, 9, 18π
6. 25, 12.5, 25π
7. 2, 1, 2π
8. 36, 18, 36π
9. $C = 20 \text{ cm}$
10. 16
11. The diameter is the same length as the diagonals of the square.
12. $32\sqrt{2}$
13. 16π
14. 81.7 in, the circumference
15. 775 complete rotations
16. 5.25 miles
17. 23270901 rotations

10.9 Arc Length

Answers

1. 15π
2. 25π
3. 3π
4. 10π
5. $r = 108$
6. $r = 30$
7. $r = 72$
8. 120°
9. 162°
10. 15°

10.10 Area of a Circle

Answers

1. $2, 4\pi, 4\pi$
2. $4, 16\pi, 8\pi$
3. $5, 25\pi, 10\pi$
4. $12, 144\pi, 24\pi$
5. $9, 81\pi, 18\pi$
6. $3\sqrt{10}, 90\pi, 6\sqrt{10}\pi$
7. $17.5, 306.25\pi, 35\pi$
8. $\frac{7}{\pi}, \frac{49}{\pi}, 14$
9. $\frac{30}{\pi}, \frac{900}{\pi}, 60$
10. $\frac{6}{\sqrt{\pi}}, 36, 12\sqrt{\pi}$
11. 123.61
12. 1033.58
13. 54.94

10.11 Area of Sectors and Segments

Answers

1. 54π
2. 1.042π
3. 189π
4. $2.\bar{6}\pi - 6.93$
5. 33π
6. 7.5π
7. 2
8. 16π
9. 120°
10. 10°
11. 198°
12. 6π
13. $9\sqrt{3}$
14. 3.26
15. 64π
16. 128
17. 73.06