

Trójkąty o kątach 90,45,45 oraz 90,30,60 - odpowiedzi

GRUPA A

1. $12\sqrt{5} + 6\sqrt{10}$
2. $6 + \frac{12}{\sqrt{2}} = 6 + 6\sqrt{2}$
3. $18 + 18\sqrt{3}$
4. C
5. D
6. $25 + 25\sqrt{3}, 25\sqrt{2}, 50$
7. A
8. N, N, N, T
9. $32\sqrt{3} \text{ cm}^2$
10. $\frac{18}{\sqrt{3}} + 6 = 6\sqrt{3} + 6$
11. C
12. Pole $= 48 + \frac{8}{\sqrt{3}} = 48 + \frac{8}{3}\sqrt{3}$, obwód $= 24 + \frac{12}{\sqrt{3}} + 4\sqrt{2} = 24 + 4\sqrt{2} + 4\sqrt{3}$
13. $9\sqrt{3} + 9$
14. $48\sqrt{3} \text{ cm}^2, 12\sqrt{3} \text{ cm}^2, 24\sqrt{3} \text{ cm}^2, 24\sqrt{3} \text{ cm}^2$
15. $(36 + 9\sqrt{3}) \text{ cm}^2$
16. $x = 8\sqrt{3}, y = 9\sqrt{6}$
17. 1,4 m
18. Około 327 m.
- *19. $75\sqrt{3}$
- *20.
- *21. $(18 + 18\sqrt{3}) \text{ cm}$

GRUPA B

1. $10\sqrt{3} + 5\sqrt{6}$
2. $3 + \frac{6}{\sqrt{2}} = 3 + 3\sqrt{2}$
3. $4,5 + 4,5\sqrt{3}$
4. D
5. D
6. $30 + 30\sqrt{3}, 30\sqrt{2}, 60$
7. C
8. T, T, N, N
9. $50\sqrt{3} \text{ cm}^2$
10. $\frac{30}{\sqrt{3}} + 10 = 10\sqrt{3} + 10$

11. D

12. Pole = $\frac{69\sqrt{3}+27}{2}$, obwód = $29 + 3\sqrt{3} + 3\sqrt{6}$

13. $\frac{9\sqrt{3}}{4} + \frac{9}{4}$

14. $27\sqrt{3} \text{ cm}^2, 3\sqrt{3} \text{ cm}^2, 9\sqrt{3} \text{ cm}^2, 9\sqrt{3} \text{ cm}^2$

15. $12\sqrt{3} \text{ cm}^2$

16. $x = 11\sqrt{3}, y = 15\sqrt{6}$

17. 1,5 m

18. Około 27 m.

*19. $48\sqrt{3}$

*20.

*21. $(15 + 15\sqrt{3}) \text{ cm}$

GRUPA C

1. $12\sqrt{3} + 6\sqrt{6}$

2. $10 + \frac{20}{\sqrt{2}} = 10 + 10\sqrt{2}$

3. $13,5 + 13,5\sqrt{3}$

4. A

5. B

6. $5 + 5\sqrt{3}, 10, 5\sqrt{2}$

7. C

8. N, T, T, N

9. $8\sqrt{3} \text{ cm}^2$

10. $\frac{21}{\sqrt{3}} + 7 = 7\sqrt{3} + 7$

11. A

12. Pole = $26\sqrt{3} + 6$, obwód = $30 + 2\sqrt{6} + 2\sqrt{3}$

13. $\sqrt{3} + 1$

14. $75\sqrt{3} \text{ cm}^2, 48\sqrt{3} \text{ cm}^2, 60\sqrt{3} \text{ cm}^2, 60\sqrt{3} \text{ cm}^2$

15. $(10 + 4\sqrt{3}) \text{ cm}^2$

16. $x = 6\sqrt{3}, y = 5\sqrt{6}$

17. 1,75 m

18. Około 277 m.

*19. $108\sqrt{3}$

*20.

*21. $(13,5 + 13,5\sqrt{3}) \text{ cm}$

GRUPA D

1. $6\sqrt{5} + 3\sqrt{10}$

2. $2 + \frac{4}{\sqrt{2}} = 2 + 2\sqrt{2}$

3. $9 + 9\sqrt{3}$

4. B

5. C

6. $20\sqrt{2}, 40, 20 + 20\sqrt{3}$

7. D

8. T, N, N, T

9. $12,5\sqrt{3} \text{ cm}^2$

10. $\frac{18}{\sqrt{3}} + 6 = 6\sqrt{3} + 6$

11. B

12. Pole = $\frac{27\sqrt{3}+27}{2}$, obwód = $25 + 3\sqrt{3} + 3\sqrt{6}$

13. $2\sqrt{3} + 2$

14. $3\sqrt{3} \text{ cm}^2, 12\sqrt{3} \text{ cm}^2, 6\sqrt{3} \text{ cm}^2, 6\sqrt{3} \text{ cm}^2$

15. $(36 + 16\sqrt{3}) \text{ cm}^2$

16. $x = 2\sqrt{3}, y = 8\sqrt{6}$

17. 1,6m

18. Około 246 m.

*19. $3\sqrt{3}$

*20.

*21. $(6 + 6\sqrt{3}) \text{ cm}$

GRUPA E

1. $10\sqrt{5} + 5\sqrt{10}$

2. $5 + \frac{10}{\sqrt{2}} = 5 + 5\sqrt{2}$

3. $7,5 + 7,5\sqrt{3}$

4. C

5. B

6. $15 + 15\sqrt{3}, 30, 15\sqrt{2}$

7. B

8. N, T, N, N

9. $18\sqrt{3} \text{ cm}^2$

10. $\frac{21}{\sqrt{3}} + 7 = 7\sqrt{3} + 7$

11. B

12. Pole = $\frac{13\sqrt{3}+3}{2}$, obwód = $13 + 3\sqrt{3} + \sqrt{6}$.

13. $\frac{25\sqrt{3}}{4} + \frac{25}{4}$

14. $75\sqrt{3}\text{ cm}^2$, $12\sqrt{3}\text{ cm}^2$, $30\sqrt{3}\text{ cm}^2$, $30\sqrt{3}\text{ cm}^2$

15. $6\sqrt{3}\text{ cm}^2$

16. $x = 7\sqrt{3}$, $y = 10\sqrt{6}$

17. 1,7 m

18. Około 77 m.

*19. $300\sqrt{3}$

*20.

*21. $(7,5 + 7,5\sqrt{3})\text{ cm}$

GRUPA F

1. $14\sqrt{5} + 7\sqrt{10}$

2. $4 + \frac{8}{\sqrt{2}} = 4 + 4\sqrt{2}$

3. $15 + 15\sqrt{3}$

4. D

5. A

6. $12 + 12\sqrt{3}$, 24, $12\sqrt{2}$

7. A

8. T, N, T, N

9. $18\sqrt{3}\text{ cm}^2$

10. $\frac{30}{\sqrt{3}} + 10 = 10\sqrt{3} + 10$

11. A

12. Pole = $52 + 8\sqrt{3}$, obwód = $34 + 4\sqrt{3} + 4\sqrt{2}$

13. $4\sqrt{3} + 4$

14. $48\sqrt{3}\text{ cm}^2$, $3\sqrt{3}\text{ cm}^2$, $12\sqrt{3}\text{ cm}^2$, $12\sqrt{3}\text{ cm}^2$

15. $(12 + 4\sqrt{3})\text{ cm}^2$

16. $x = 10\sqrt{3}$, $y = 12\sqrt{6}$

17. 1 m

18. Około 286 m.

*19. $12\sqrt{3}$

*20.

*21. $(10,5 + 10,5\sqrt{3})\text{ cm}$

GRUPA G

1. $14\sqrt{3} + 7\sqrt{6}$

$$2. 7 + \frac{14}{\sqrt{2}} = 7 + 7\sqrt{2}$$

$$3. 6 + 6\sqrt{3}$$

4. A

5. C

$$6. 16 + 16\sqrt{3}, 16\sqrt{2}, 32$$

7. D

8. T, N, N, T

$$9. 8\sqrt{3} \text{ cm}^2$$

$$10. \frac{36}{\sqrt{3}} + 12 = 12\sqrt{3} + 12$$

11. C

$$12. \text{Pole} = 14 + 2\sqrt{3}, \text{obwód} = 18 + 2\sqrt{3} + 2\sqrt{2}$$

$$13. 8\sqrt{3} + 8$$

$$14. 75\sqrt{3} \text{ cm}^2, 27\sqrt{3} \text{ cm}^2, 45\sqrt{3} \text{ cm}^2, 45\sqrt{3} \text{ cm}^2$$

$$15. (24 + 9\sqrt{3}) \text{ cm}^2$$

$$16. x = 5\sqrt{3}, y = 3\sqrt{6}$$

17. 1,25 m

18. Około 177 m.

$$*19. 27\sqrt{3}$$

*20.

$$*21. (12 + 12\sqrt{3}) \text{ cm}$$

GRUPA H

$$1. 4\sqrt{3} + 2\sqrt{6}$$

$$2. 8 + \frac{16}{\sqrt{2}} = 8 + 8\sqrt{2}$$

$$3. 10,5 + 10,5\sqrt{3}$$

4. B

5. B

$$6. 10\sqrt{2}, 20, 10 + 10\sqrt{3}$$

7. D

8. N, N, T, T

$$9. 12,5\sqrt{3} \text{ cm}^2$$

$$10. \frac{36}{\sqrt{3}} + 12 = 12\sqrt{3} + 12$$

11. D

$$12. \text{Pole} = \frac{27\sqrt{3}+27}{2}, \text{obwód} = 25 + 3\sqrt{3} + 3\sqrt{6}$$

$$13. 4,5\sqrt{3} + 4,5$$

$$14. 75\sqrt{3} \text{ cm}^2, 3\sqrt{3} \text{ cm}^2, 15\sqrt{3} \text{ cm}^2, 15\sqrt{3} \text{ cm}^2$$

15. $20\sqrt{3} \text{ cm}^2$
16. $x = 9\sqrt{3}, y = 11\sqrt{6}$
17. 0,75 m
18. Około 227 m.
- *19. $243\sqrt{3}$
- *20.
- *21. $(9 + 9\sqrt{3}) \text{ cm}$

GRUPA I

1. $4\sqrt{5} + 2\sqrt{10}$
2. $9 + \frac{18}{\sqrt{2}} = 9 + 9\sqrt{2}$
3. $12 + 12\sqrt{3}$
4. D
5. D
6. $12 + 12\sqrt{3}, 24, 12\sqrt{2}$
7. B
8. T, N, N, T
9. $50\sqrt{3} \text{ cm}^2$
10. $\frac{24}{\sqrt{3}} + 8 = 8\sqrt{3} + 8$
11. A
12. Pole = $\frac{13\sqrt{3}+3}{2}$, obwód = $13 + 3\sqrt{3} + \sqrt{6}$.
13. $12,5\sqrt{3} + 12,5$
14. $27\sqrt{3} \text{ cm}^2, 12\sqrt{3} \text{ cm}^2, 18\sqrt{3} \text{ cm}^2, 18\sqrt{3} \text{ cm}^2$
15. $16\sqrt{3} \text{ cm}^2$
16. $x = 3\sqrt{3}, y = 6\sqrt{6}$
17. 1,3 m
18. Około 419 m.
- *19. $300\sqrt{3}$
- *20.
- *21. $(19,5 + 19,5\sqrt{3}) \text{ cm}$

GRUPA J

1. $6\sqrt{3} + 3\sqrt{6}$
2. $11 + \frac{22}{\sqrt{2}} = 11 + 11\sqrt{2}$
3. $16,5 + 16,5\sqrt{3}$
4. C

5. B

6. $15 + 15\sqrt{3}, 30, 15\sqrt{2}$

7. A

8. N, T, N, N

9. $32\sqrt{3} \text{ cm}^2$

10. $\frac{27}{\sqrt{3}} + 9 = 9\sqrt{3} + 9$

11. B

12. Pole = $52 + 8\sqrt{3}$, obwód = $34 + 4\sqrt{3} + 4\sqrt{2}$

13. $18\sqrt{3} + 18$

14. $75\sqrt{3} \text{ cm}^2, 48\sqrt{3} \text{ cm}^2, 60\sqrt{3} \text{ cm}^2, 60\sqrt{3} \text{ cm}^2$

15. $27\sqrt{3} \text{ cm}^2$

16. $x = 4\sqrt{3}, y = 4\sqrt{6}$

17. 2 m

18. Około 127 m.

*19. $108\sqrt{3}$

*20.

*21. $(16,5 + 16,5\sqrt{3}) \text{ cm}$