Question block created by wizard

This exam contains 32 questions

1. According to the basic rules, calculate: 2+8:4·3-5 =

a. -2
b. 3
c. 2,5

2. Which statement is correct? 5 divided by 8 is..

a. 0,125
b. 0,625
c. 0,0625

3. Calculate: 68182 : 73 =

a. 934
b. 0,934
c. 9340

4. Calculate $^{3}/_{8}$: $^{1}/_{5}$

a. $1^{7}/_{8}$
b. $^{8}/_{15}$
c. $^{3}/_{40}$

5. Safety shoes have a price of € 250. You get 30% reduction. What do you need to pay now for the pair of shoes?

a. € 175,00
b. € 220,00
c. € 75,00

6. The area of a cylinder with a radius of 4 cm and a height of 5 cm is.... (π = 3,14)

a. 251,3 cm²
b. 226,2 cm²
c. 314 cm²

7. $^{2}\sqrt{(81)}$ =

a. 9
b. 8
c. 3

8. 8^3 =

a. 24
b. 64
c. 512

9. Calculate: 2x·3y + 5x·4y =

a. $26x^2y^2$
b. 26xy
c. 7x+7y

10. Calculate: $^{ab}/_{d} + {}^{d}/_{c}$ =

a. ab + d
b. ab + 1 / c
c. $(abc+d^2) / (cd)$

11. Calculate: $\frac{12x}{y} : \frac{-6y}{x} =$

a. -2
b. $-2x^2 / y^2$
c. $-y^2 / 2x^2$

12. Calculate: $^{12x}/_{y} - (\,^{-6y}/_{x})$ =

a. $(12x^2 - 6y^2) / (xy)$
b. (12x + 6y) / (xy)
c. $(12x^2 + 6y^2) / (xy)$

13. Calculate: -3(a+b) =

a. -3a+3b
b. 3a-3b
c. -3a-3b

14. Calculate: (a+b) · (a-b) =

a. a^2 - 2ab - b^2
b. a^2-b^2
c. 2ab-b^2

15. Calculate $^1/_3$ a + $^1/_4$ a =

a. $^1/_{12}$ a
b. $^1/_3$ a
c. $^7/_{12}$ a

16. Calculate $^1/_6$ a : $^1/_3$ a =

a. $^1/_{18}$ a
b. $^1/_2$ a
c. $^1/_2$

17. Rearrange according to the rules of linear equations: 5x -5 = -2x + 3x + 15

a. 6x = 20
b. 4x = 20
c. 6x = 10

18. Solve according to the rules of linear equations: 4(2d - 8) = 3(4d - 16)

a. d = -4
b. d = 2
c. d = 4

19. $\sqrt[3]{8}$ =

a. 2
b. 8 : 3 = $2^2/_3$
c. 8 : $^1/_3$ = 24

20. $10011_{(2)}$ =.....$_{(10)}$

a. 18
b. 20
c. 19

21. Solve: x^2 -5x -14 = 0

a. x = 7 or x = 2
b. x = 7 or x = -2
c. x = -7 or x = 2

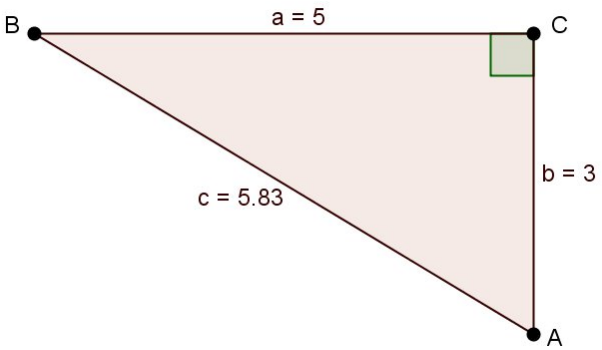
22. We can write: log(AB) =

a. log(A) x log(B)
b. log(A) + log(B)
c. log(A) - log(B)

23. The cosin of an angle is:

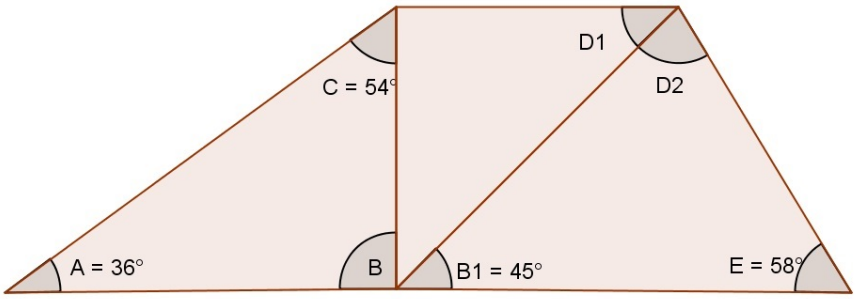
a. opposite divided by the hypotenus.
b. adjacent divided by the opposite.
c. adjacent divided by the hypotenus.

24. The tangent of angle B is:



a. $^3/_5$
b. $1^2/_3$
c. $1^{47}/_{50}$

25. Determine the sum of the angles D1 + D2 ?

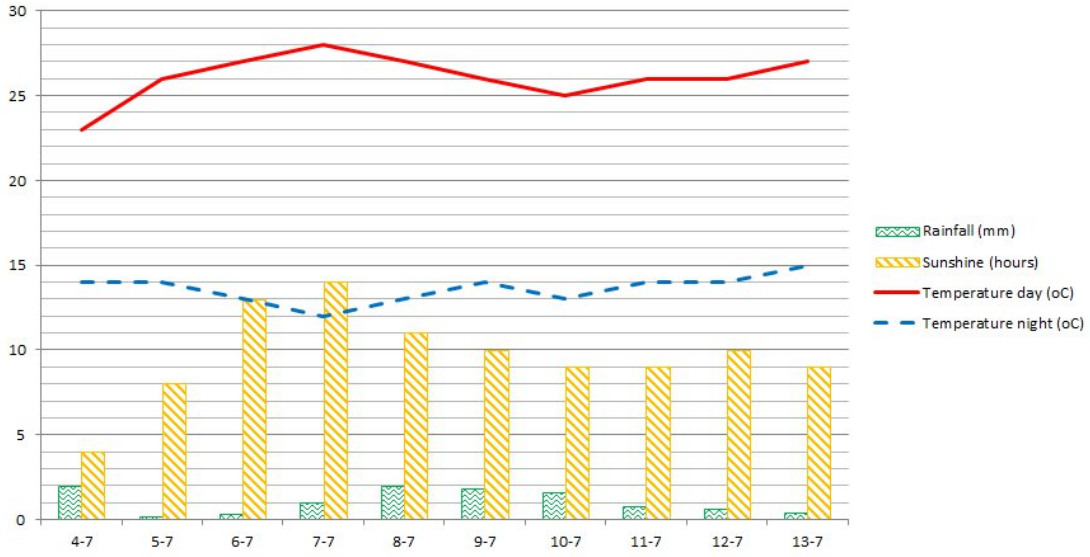


a. 121º
b. 120º
c. 122º

26. Equation: y = 0,5x-1

a. The equation represents a sloping line.
b. The equation represents a vertical straight line.
c. The equation represents a horizontal straight line.

27. Calculate the average sunshine hours from the fourth till the eights day of July.

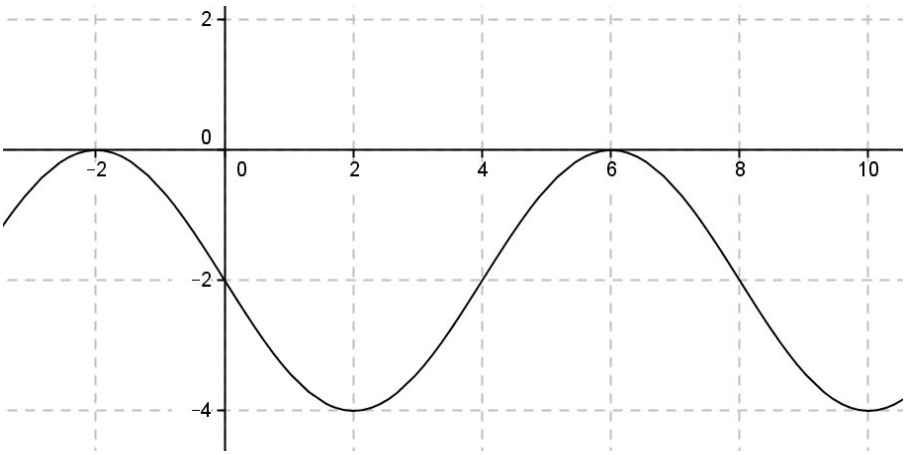


a. 10 hours
b. 8 hours
c. 9 hours

28. Determine the tan of the straight line (y=ax+b) with the x-axis, that passes through the points (5,24) and (3,4).

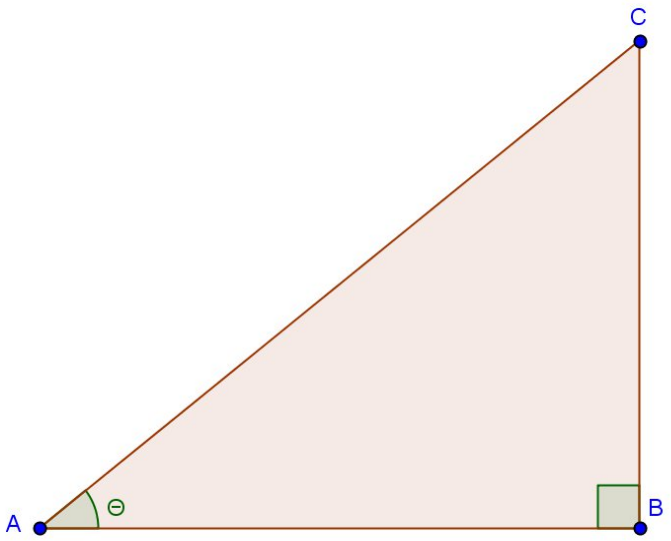
a. tan = a = 1/10
b. tan = a = 10
c. tan = a = 1/21

29. Determine the function of the graph below.



a. y = 2sin(0,25 π xt+ π)-2
b. y = -2sin(0,25 π xt+ π)+2
c. y = -2sin(0,25 π xt+ π)-2

30. Sin θ = 4 / 6,4. Calculate the adjacent.



a. $\sqrt{(57)}$
b. 5
c. 3,2

31. Which rivet do we use to fasten two aluminum plates of 2 mm thickness each? The hole diameter is 5 mm.

Rivets

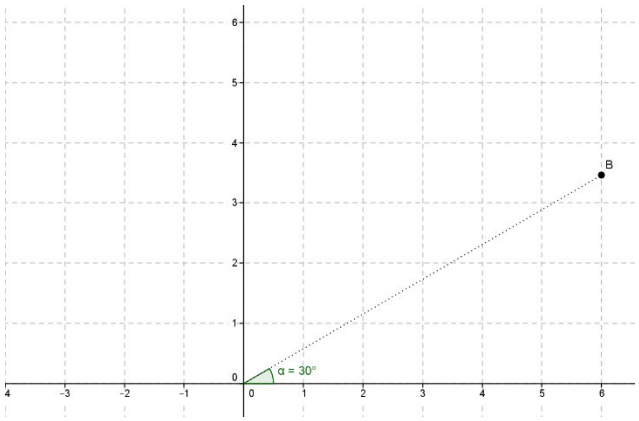
Check DIN 7337

sizes in mm

d = 3		d = 4		d = 5		d = 6	
l	b	l	b	l	b	l	b
aluminum rivet							
3,5	1 - 1,5	4	1 - 1,5	5	1 - 2,5	8	1- 4
4,5	1,5- 2,5	5	1,5- 2,5	6	2,5-3,5	10	4- 6
5,5	2,5- 3,5	6	2,5- 3,5	8	3,5- 5	12	6- 8
6,5	3,5- 4,5	7	3,5- 4,5	10	5 -7	16	8-12
8	4,5- 6,5	8	4,5- 6	12	7 - 9,5	18	12-14
10	6,5- 8	10	6 - 7,5	14	9,5-11,5	22	14-18
12	8 -10	12	7,5-10	16	11,5-13		
steel rivet							
4,5	1 -2	6	1-3	8	2,5- 4,5		
6,5	1,5-3,5	8	3-5	10	4,5- 6,5		
8	3,5-5	10	5-7	12	6,5- 8,5		
10	5 -7	12	7-9	14	8,5-10,5		

a. The length of the rivet is 6,5mm.
b. The length of the rivet is 7mm
c. The length of the rivet is 8mm.

32. Determine cartesian coordinates of point B in the drawing.



a. $(6; 6/\sqrt{(3)})$
b. $(6\sqrt{(3)}; 6)$
c. $(6; 6\sqrt{(3)})$