Question block created by wizard

This exam contains 32 questions

1. According to the basic rules, calculate: (2 + 4) · 3 : 6 - 5 =

a. -2
b. -1
c. 18

2. Which statement is correct? 3 divided by 4 is..

a. 0,75
b. 1,33
c. 0,25

3. Calculate: 128 · 173 =

a. 22144
b. 9344
c. 3460

4. Calculate: $^{2}/_{4} \cdot {}^{1}/_{4}$ =

a. $^{1}/_{8}$
b. $^{1}/_{2}$
c. 2

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. € 220,00
b. € 75,00
c. € 175,00

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

a. 226,2 cm^2
b. 251,3 cm^2
c. 314 cm^2

7. $\sqrt{(64)}$ =

a. 8
b. 10
c. 2

8. 7^2 =

a. 14
b. 49
c. 3,5

9. a + a + b - c =

a. 2a+b-c
b. 2a-b+c
c. a^2+b-c

10. Calculate: $^2/_a + {}^3/_b$ =

a. (3a+2b) / (ab)
b. 5 /(a+b)
c. (3a+2b) / (a+b)

11. Calculate: $^{ab}/_b \cdot {}^a/_c$ =

a. 1/c
b. c
c. a^2 /c

12. Calculate: $^{3x}/_{4y} + {}^{5x}/_y$

a. $8x / 4y^2$
b. 8x / 4y
c. 23x / 4y

13. Calculate: 3(a+b) =

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

14. Calculate: $(a+b) \cdot (a+b) =$

a. $2ab + b^2$
b. $a^2 + b^2$
c. $a^2 + 2ab + b^2$

15. Calculate: $^1/_3\ a - {}^1/_4\ a =$

a. $^1/_{12}\ a$
b. $-^7/_{12}\ a$
c. $-^1/_4\ a$

16. Calculate: $^1/_3\ a \cdot {}^1/_4\ a =$

a. $^1/_{12}\ a^2$
b. $^7/_{12}\ a^2$
c. $-^7/_{12}\ a^2$

17. When solving linear equations, the first step to do is ..... (if available)

a. Transfer from right hand side to left hand side and vice versa, make sure that only the variable on the left side remains.
b. eliminate the brackets.
c. rearrange both sides.

18. Solve according to the rules of linear equations: $5(3k-7)+7 = 7(2k-4)$

a. $15k - 35 = 14k - 28$
b. $k = 0$
c. $29k = -56$

19. $4^{1/2} =$

a. $\sqrt{4}$
b. $4 \cdot 0{,}5$
c. $^2\sqrt{2}$

20. $17_{(10)} =$ .....$_{(8)}$

a. 21
b. 20
c. 17

21. Solve: $x^2 - 2x = 8$

a. x = 4 or x = 2
b. x = 4 or x = -2
c. x = -4 or x = 2

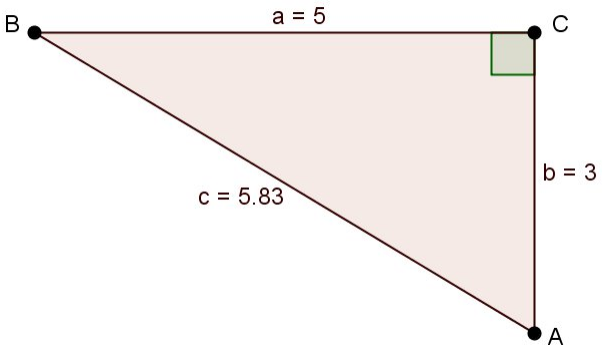
22. We can write: $b^x = y$ as.....

a. $^x\log(b) = y$
b. $^b\log(y) = x$
c. $^y\log(b) = x$

23. The sinus of an angle is:

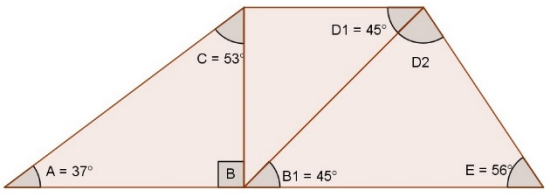
a. adjacent divided by the hypotenus.
b. adjacent divided by the opposite.
c. opposite divided by the hypotenus.

24. The tangent of angle A is?



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

25. Determine the magnitude of angle D2 ?

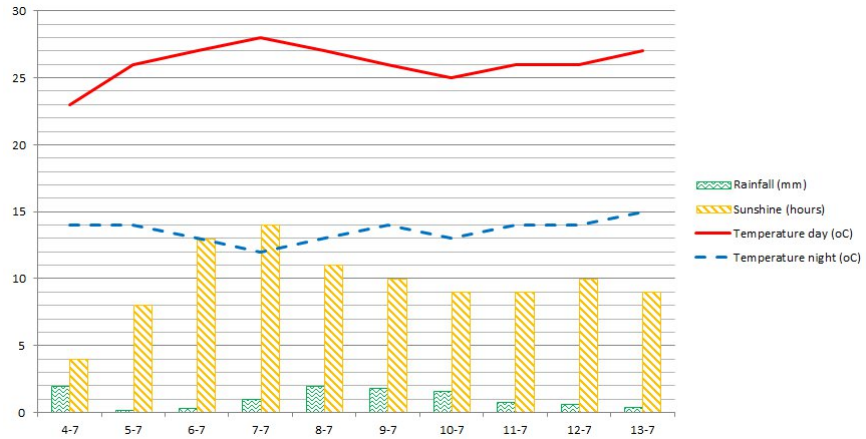


a. 80°
b. 79°
c. 81°

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

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

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

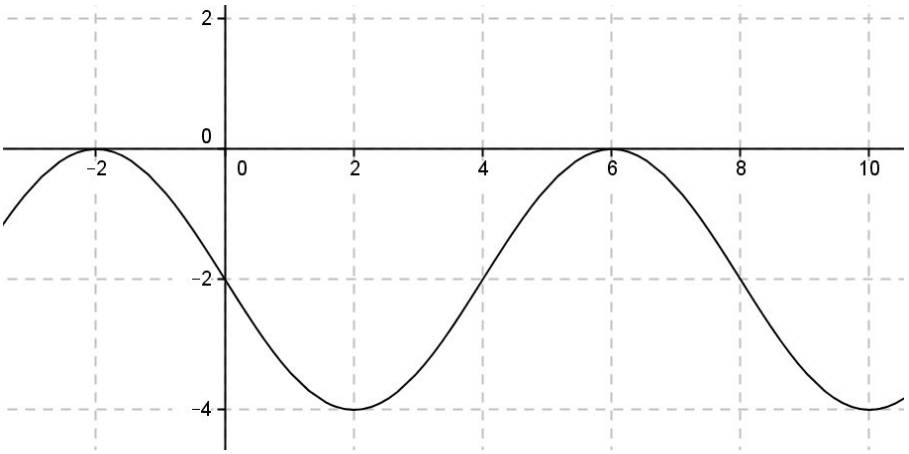


a. 10 hours
b. 8 hours
c. 9 hours

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).

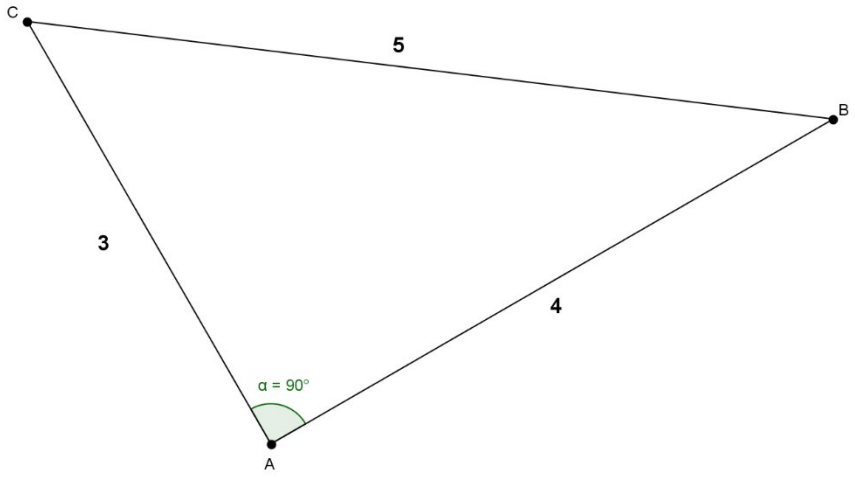
a. tan = a = 1/10
b. tan = a = 1/21
c. tan = a = 10

29. Determine the function of the graph below.



a. $y = -2\sin(0{,}25\ \pi\ xt + \pi) + 2$
b. $y = -2\sin(0{,}25\ \pi\ xt + \pi) - 2$
c. $y = 2\sin(0{,}25\ \pi\ xt + \pi) - 2$

30. Calculate the shortest rectangular side if the hypotenuse has a length of 45 cm.



a. 36 cm
b. 75 cm
c. 27 cm

31. Which rivet do we use to fasten two aluminum plates, one of 1 mm and the other of 2 mm thickness. The hole diameter is 4 mm.

Rivets

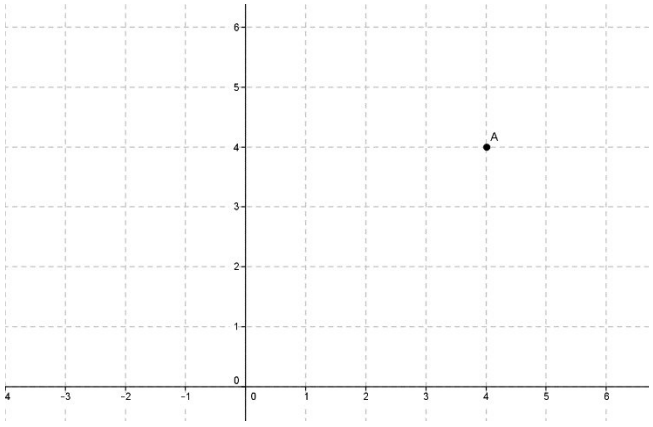
Check DIN 7337

sizes in mm

d = 3 l	b	d = 4 l	b	d = 5 l	b	d = 6 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 8mm.
b. The length of the rivet is 6mm.
c. The length of the rivet is 5,5mm

32. Determine the polar coordinates of point A in the drawing.



a. $(2\sqrt{(4)}$;-45 degrees)
b. $(4\sqrt{(2)}$; 45 degrees)
c. $(4\sqrt{(2)}$; -45 degrees)