Question block created by wizard

This exam contains 32 questions

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

- (a) -2

o (b) 18
o (c) -1

If choice a is selected set score to 1.

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

o (a) 0,25

- (b) 0,75

o (c) 1,33

If choice b is selected set score to 1.

3. Calculate: 128 · 173 =

o (a) 3460
o (b) 9344

- (c) 22144

If choice c is selected set score to 1.

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

- (a) $^{1}/_{8}$

o (b) $^{1}/_{2}$
o (c) 2

If choice a is selected set score to 1.

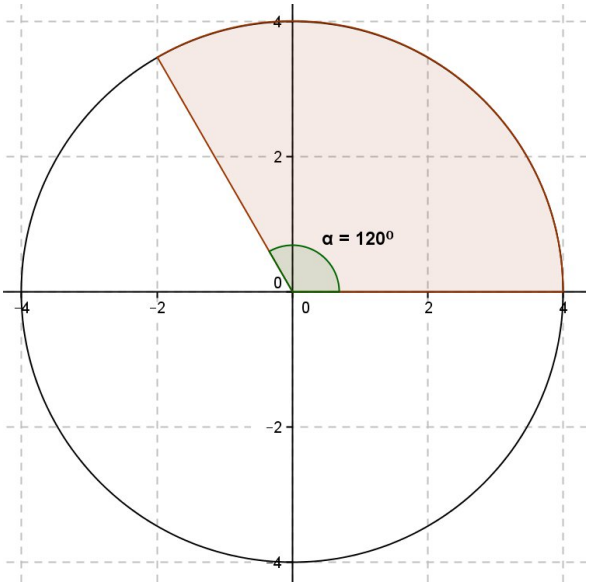
5. 11,43 cm = ... inch

- (a) 4,5

o (b) 34,3
o (c) 29,8

If choice a is selected set score to 1.

6. Calculate the area of the circle-sector given in the picture.



- o (a) $4^{4}/_{9}\pi$
- o (b) $3^{5}/_{9}\pi$
- • (c) $5^{1}/_{3}\pi$

If choice c is selected set score to 1.

7. √(64) =

- o (a) 10
- • (b) 8
- o (c) 2

If choice b is selected set score to 1.

8. 7^{2} =

- o (a) 3,5
- • (b) 49
- o (c) 14

If choice b is selected set score to 1.

9. Calculate a-a-b+c =

- o (a) b + c

- (b) -2a-b+c
- (c) -b + c

If choice c is selected set score to 1.

10. Calculate: $^{2}/_{a} + {}^{3}/_{b} =$

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

If choice b is selected set score to 1.

11. Calculate: $^{ab}/_{b} \cdot {}^{a}/_{c} =$

- (a) a^2 /c
- (b) c
- (c) 1/c

If choice a is selected set score to 1.

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

- (a) 8x / $4y^2$
- (b) 8x / 4y
- (c) 23x / 4y

If choice c is selected set score to 1.

13. Calculate: 3(a+b) =

- (a) 3a+b
- (b) 3a + 3b
- (c) 3b+a

If choice b is selected set score to 1.

14. Calculate: (a+b) · (a+b) =

- (a) $a^2 + b^2$
- (b) $2ab + b^2$
- (c) $a^2 + 2ab + b^2$

If choice c is selected set score to 1.

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

- (a) $^1/_{12}$ a

o (b) $-^1/_4$ a
o (c) $-^7/_{12}$ a

If choice a is selected set score to 1.

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

- (a) $^1/_{18} \cdot$ ab

o (b) 18ab
o (c) 1 / (18ab)

If choice a is selected set score to 1.

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

- (a) eliminate the brackets.

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

If choice a is selected set score to 1.

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

o (a) 29k = -56

- (b) k = 0

o (c) 15k - 35 = 14k - 28

If choice b is selected set score to 1.

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

o (a) 4 · 0,5

- (b) √4

o (c) $^2\sqrt{2}$

If choice b is selected set score to 1.

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

o (a) 20

- (b) 21

o (c) 17

If choice b is selected set score to 1.

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

o (a) x = -4 or x = 2

- (b) x = 4 or x = -2

o (c) x = 4 or x = 2

If choice b is selected set score to 1.

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

- (a) $^b\log(y) = x$

o (b) $^y\log(b) = x$
o (c) $^x\log(b) = y$

If choice a is selected set score to 1.

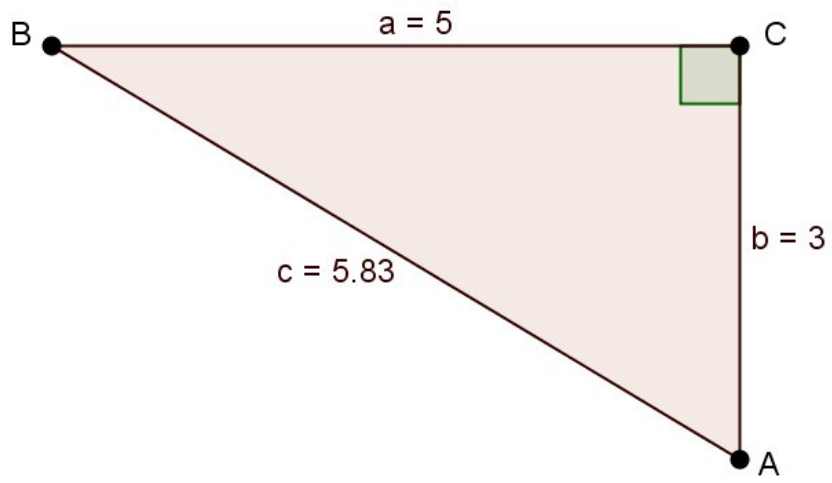
23. The sinus of an angle is:

- (a) opposite divided by the hypotenus.

o (b) adjacent divided by the hypotenus.
o (c) adjacent divided by the opposite.

If choice a is selected set score to 1.

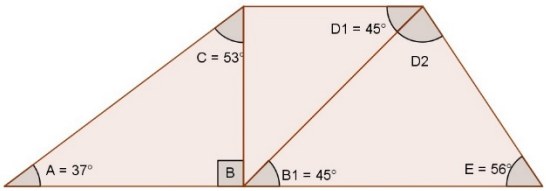
24. The sine of angle A is?



- o (a) 300 / 583
- • (b) 500 / 583
- o (c) 583 / 500

If choice b is selected set score to 1.

25. Determine the magnitude of angle D2 ?



- o (a) 80°
- • (b) 79°
- o (c) 81°

If choice b is selected set score to 1.

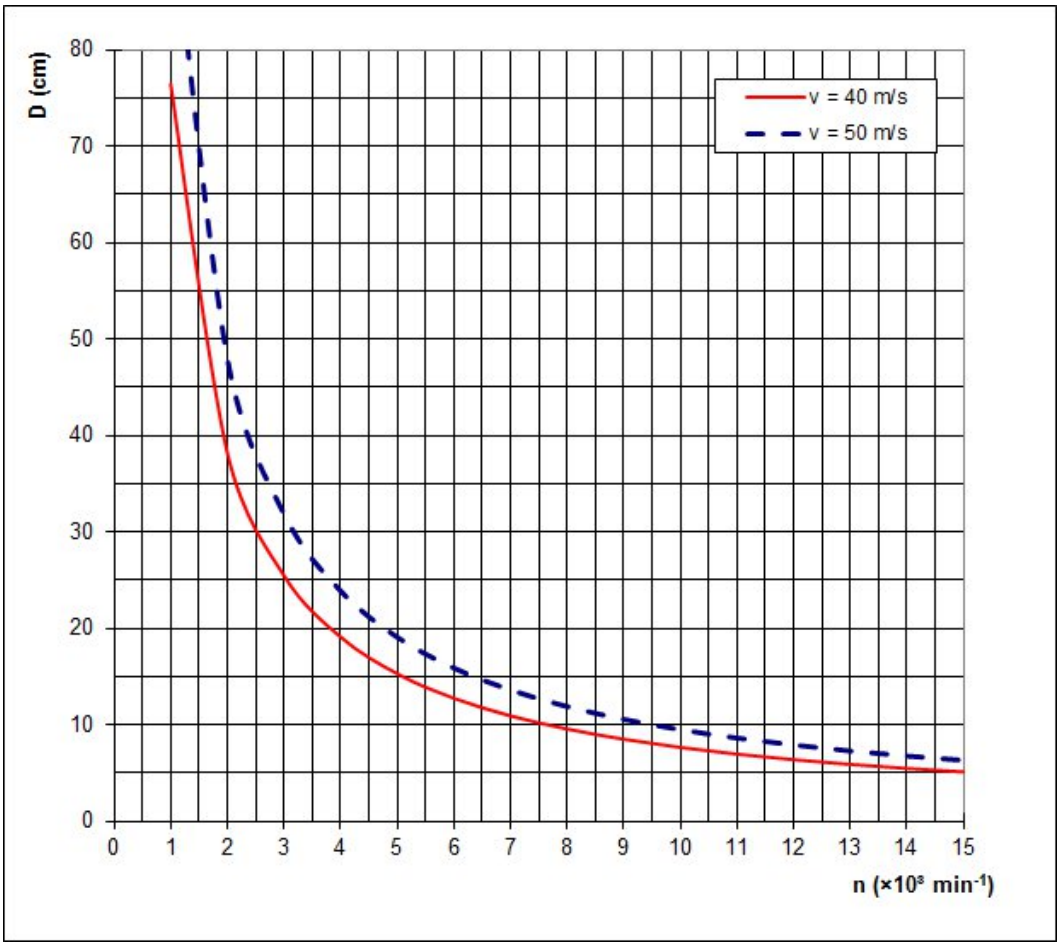
26. Equation : $y = -x^2+3x-4$. If $x = 5$.

- • (a) The equation represents a top parabola that opens downward.
- o (b) The equation represents a dal parabola that opens upward.
- o (c) The equation represents a straight line through the point (5,-14).

If choice a is selected set score to 1.

27. In the figure below you see 2 charts for the rotational speed of a cutter relative to the cutter diameter.

Determine the RPM if you need a cutter of 15 cm with a cutter speed of 40 m/s.



- o (a) 7500 RPM
- o (b) 9500 RPM

- • (c) 5500 RPM

If choice c is selected set score to 1.

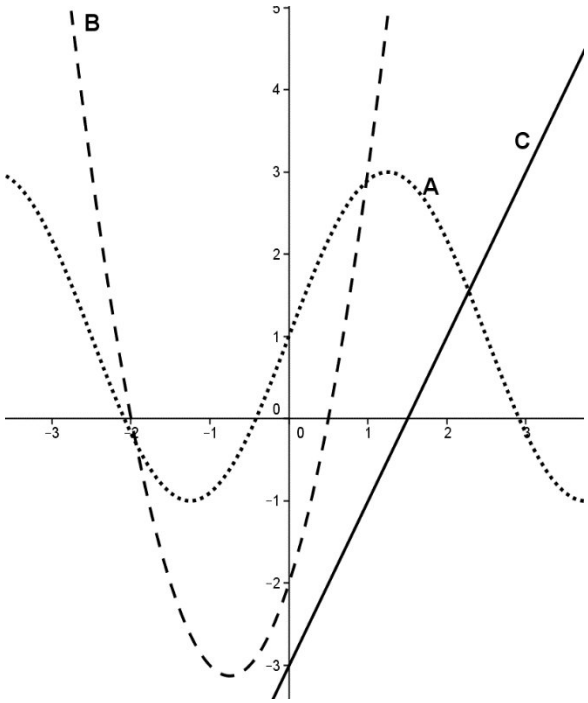
28. Determine the equation of the straight line that passes through the points (1,3) and tan with the x-axis = 2.

- • (a) y = 2x+1

- o (b) y = 0,5x+8,5
- o (c) y = 0,5x+2,5

If choice a is selected set score to 1.

29. Three kinds of graphs are shown. Which graph belongs to the equation $y = 2x^2+3x-2$?



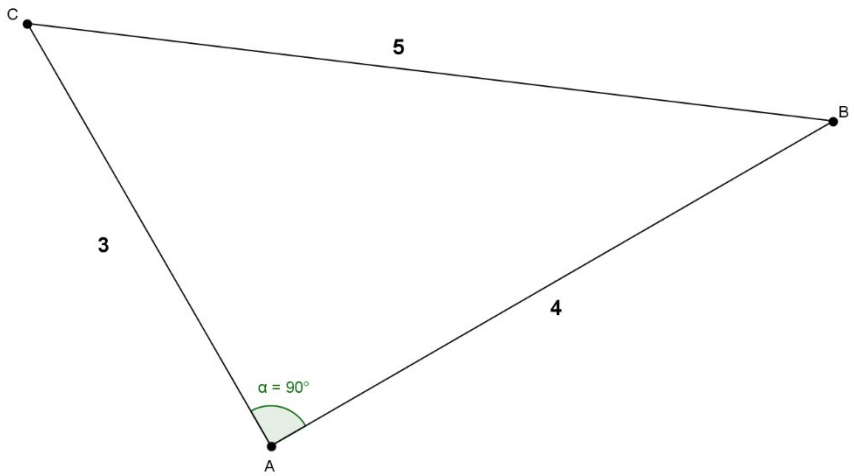
o (a) Graph C

• (b) Graph B

o (c) Graph A

If choice b is selected set score to 1.

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



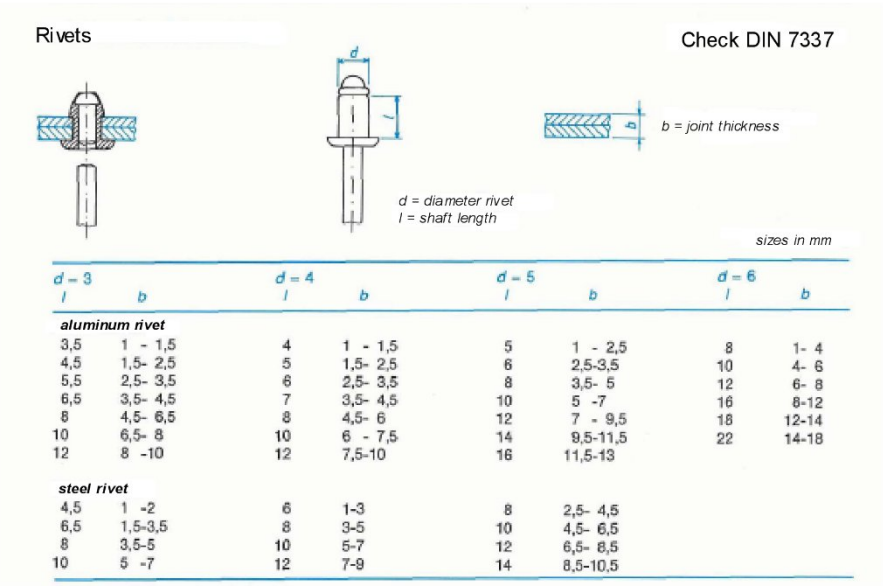
o (a) 75 cm

- (b) 27 cm

o (c) 36 cm

If choice b is selected set score to 1.

31. Which rivet do we use to fasten two steel plates, one of 6 mm and the other of 4 mm thickness. The hole diameter is 5 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		

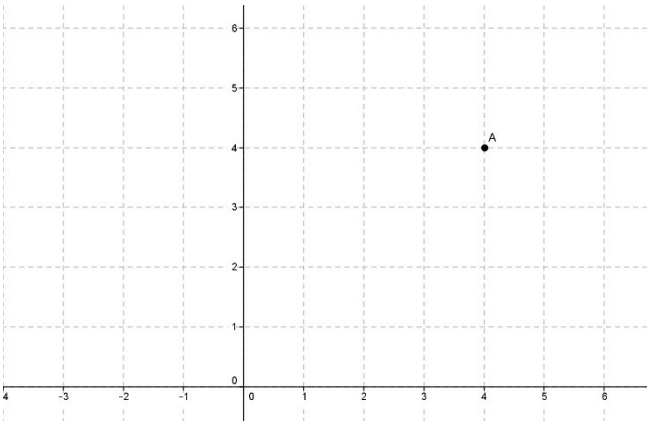
o (a) The length of the rivet is 10 mm.

- (b) The length of the rivet is 14 mm.

o (c) The length of the rivet is 12 mm.

If choice b is selected set score to 1.

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



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

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

If choice a is selected set score to 1.

If assessment score is 75% to 100% Pass
If assessment score is 0% to 74% Fail