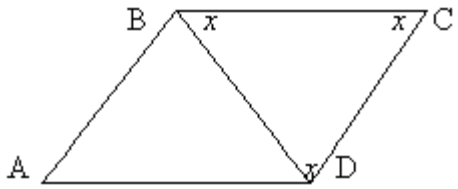
1. Sheila works 8 hours per day on Monday, Wednesday and Friday, and 6 hours per day on Tuesday and Thursday. She does not work on Saturday and Sunday. She earns $324 per week. How much does she earn in dollars per hour?

- A. 11
- B. 10
- C. 9
- D. 8
- E. 7



2. ABCD is a parallelogram. BD = 2. The angles of triangle BCD are all equal. What is the perimeter of the parallelogram?

- A. 12
- B. $9\sqrt{3}$
- C. 9
- D. 8
- E. $3\sqrt{3}$

3. If the product of 6 integers is negative, at most how many of the integers can be negative?

- A. 2
- B. 3
- C. 4
- D. 5
- E. 6

4. If a positive integer n, divided by 5 has a remainder 2, which of the following must be true?

Select ALL such statements.

- A. n is odd
- B. n + 1 cannot be a prime number
- C. (n + 2) divided by 7 has remainder 2
- D. n + 3 is divisible by 5

5. A solid cube of side 6 is first painted pink and then cut into smaller cubes of side 2. How many of the smaller cubes have paint on exactly 2 sides?

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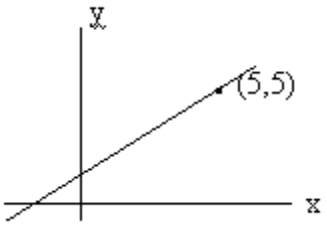
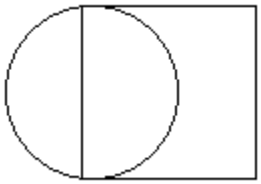
- A. 30
- B. 24
- C. 12
- D. 8
- E. 6



6. The slope of the line passing through the point (5,5) is 5/6. All of the following points could be on the line except

- A. (2.5, 2)
- B. (11, 10)
- C. (8, 7.5)
- D. (-1, 0)
- E. (-7, -5)



7. In the figure above the square has two sides which are tangent to the circle. If the area of the circle is $4a^2\pi$, what is the area of the square?

- A. $2a^2$
- B. $4a$
- C. $4a^2$
- D. $16a^2$
- E. $64a^2$

8. A triangle has a perimeter 13. The two shorter sides have integer lengths equal to x and x + 1. Which of the following could be the length of the other side?

Select as many as are correct.

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- [ ] A. 4
- [ ] B. 6
- [ ] C. 8

9. A machine puts c caps on bottles in m minutes. How many hours will it take to put caps on b bottles?

- A. 60bm/c
- B. bm/60c
- C. bc/60m
- D. 60b/cm
- E. b/60cm

10. Paint needs to be thinned to a ratio of 2 parts paint to 1.5 parts water. The painter has by mistake added water so that he has 6 litres of paint which is half water and half paint. What must he add to make the proportions of the mixture correct?

- A. 1 litre paint
- B. 1 litre water
- C. ½ litre water and one litre paint
- D. ½ litre paint and one litre water
- E. ½ litre paint

Answer Key

1. C
2. D
3. D
4. D
5. C
6. A
7. D
8. B
9. B
10. A

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