Praxis I: Pre-Professional Skills Test (PPST) - Math Test

Praxis I Math Tips

Time – 60 minutes

40 Questions

1. A boy has a spinner labeled with the numbers 1 – 10. He spins it 100 times and records his results in a table, shown below. Give the experimental probability that the boy will spin the number 6.

Number on Spinner	Frequency
1	12
2	15
3	11
4	6
5	12
6	14
7	8
8	10
9	12
10	3

    A) 6/100

    B) 100/100

    C) 10/100

    D) 14/100

    E) 4/100

2. Which of the following are complementary angles?

    A) 71° and 19°

    B) 18° and 18°

C) 90° and 90°

D) 90° and 45°

E) 15° and 30°

3. A man decided to buy new furniture from Futuristic Furniture for $2600. Futuristic Furniture gave the man two choices: pay the entire amount in one payment with cash, or pay $1000 as a down payment and $120 per month for two full years in the financial plan. If the man chooses the financial plan, how much more would he pay?
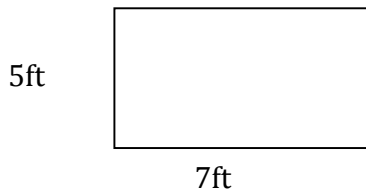
A) $1480 more

B) $1280 more

C) $1600 more

D) $2480 more

E) $3720 more

4. What is the value of r in the following equation?

$29 + r = 420$

A) $r = 29/420$

B) $r = 420/29$

C) $r = 391$

D) $r = 449$

E) $r = 478$

5. Find the area of the rectangle.

5ft

7ft

A) 5 ft

B) 12 ft

C) 24 ft

D) 35 ft

E) 70 ft

6. If 35% of a paycheck was deducted for taxes and 4% for insurance, what is the total percent taken out of the paycheck?

A) 20%

B) 31%

C) 39%

D) 42%

E) 48%

7. In the year 2000, 35% of the company sales were in electronics. The table below shows how electronic sales have changed for the company over the years. Find the percent of electronics sold in 2005.
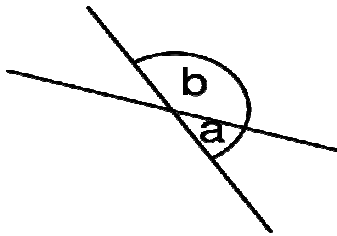
Years	Change
2000 - 2001	-2
2001 - 2002	-1
2002 - 2003	+6
2003 - 2004	-1
2004 - 2005	+2

A) 2%

B) 11%

C) 39%

D) 42%

E) 47%

8. Which of the following choices expresses 5/8 as a percent?

A) 40%

B) 58%

C) 62.5%

D) 65%

E) 72%

9. In the following figure, angle b = 120°. What is the measurement of angle a?

A) 40°

B) 60°

C) 90°

D) 100°

E) 180°

10. The scientific notation for a red blood cell is approximately 7.4 x 10^{-4} centimeters in diameter. What is that amount in standard form?

A) 0.00074

B) 0.0074

C) 7.40000

D) 296

E) -740000

11. A woman wants to stack two small bookcases beneath a window that is 26½ inches from the floor. The larger bookcase is 14½ inches tall. The other bookcase is 8¾ inches tall. How tall with the two bookcases be when they are stacked together?

A) 12 inches tall

B) 23¼ inches tall

C) 35¼ inches tall

D) 41 inches tall

E) 49¾ inches tall

12. A plane is flying 345 miles per hour at an altitude of 35,000 feet. If the speed stays the same, how many miles will the plane travel in 3 hours?

A) 690 miles

B) 1035 miles

C) 2596 miles

D) 33,965 miles

E) 35,000 miles

13. A man has $1000. He adds 10% to the total amount of money. Then he takes away 10% of the total amount. How much money does he have now?

A) $800

B) $900

C) $990

D) $1000

E) $1100

14. Solve for y in the following equation if $x = -3$

$y = x + 5$

A) $y = -2$

B) $y = 2$

C) $y = 3$

D) $y = 8$

E) $y = 15$

15. It costs $2.50 to make a 15 minute phone call. At the same rate, how much will it cost to make a phone call that lasts 12 minutes?
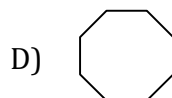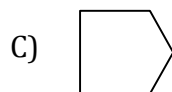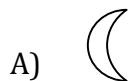
    A) $1.50
    B) $1.75
    C) $2.00
    D) $2.25
    E) $2.50

16. Put the following integers in order from greatest to least:
-52, 16, -12, 14, 8, -5, 0

    A) -52, 16, -12, 14, 8, -5, 0
    B) 0, -5, 8, -12, 14, 16, -52
    C) 0, -5, -12, -52, 8, 14, 16
    D) -5, -12, -52, 0, 8, 14, 16
    E) -52, -12, -5, 0, 8, 14, 16

17. Which of the following figures has rotational symmetry?

    A)

    B)

    C)

    D)

E) ♡

18. Which of the following is the symbol that represents the negative square root of 100?

   A) $\sqrt{-100}$

   B) $\sqrt{100}$

   C) $\sqrt{10}$

   D) $-\sqrt{100}$

   E) $-\sqrt{10}$

19. If number x is subtracted from 27, the result is -5. What is number x?

   A) 22
   B) 25
   C) 32
   D) 35
   E) 38

20. Haley's dad offered to pay for the team's pizza party. The cost, including tip, would be $4.05 per person. There were 15 team members at the party. Which of the following is the best estimate of the total bill?

   A) Less than $30
   B) Between $30 and $40
   C) Between $40 and $50
   D) Between $60 and $70
   E) More than $70

21. What is the simplest way to write the following expression?

5x – 2y + 4x + y

   A) $9x - y$

   B) $9x - 3y$

   C) $9x + 3y$

   D) $x \; ; y$

   E) $3x - y$

22. Find the sum.
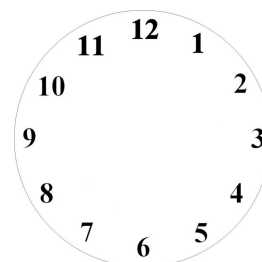
$(3x^2 + x + 3) + 8x^2 + 5x + 16$

   A) $7x^2 + 29 \, x^2$

   B) $11x^2 + 6x + 19$

   C) $30x + 19$

   D) $(3x^2 + 3x) + 13x^2 + 16$

   E) $36x^2$

23. Which of the following letters has a vertical line of symmetry?
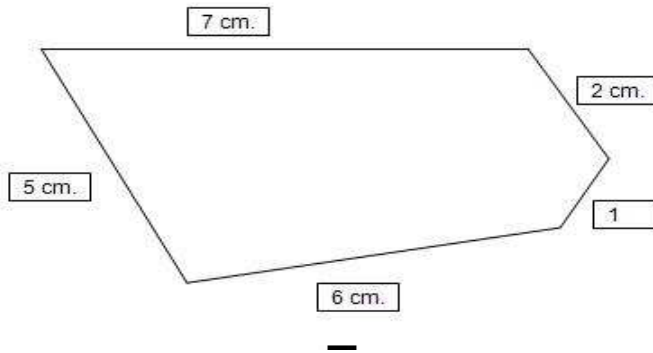
   A) E

   B) V

   C) K

   D) B

   E) L

24. A wall clock has the numbers 1 through 12 written on it. If you spin the second hand, what is the probability of landing on an even number?

   A) 20%
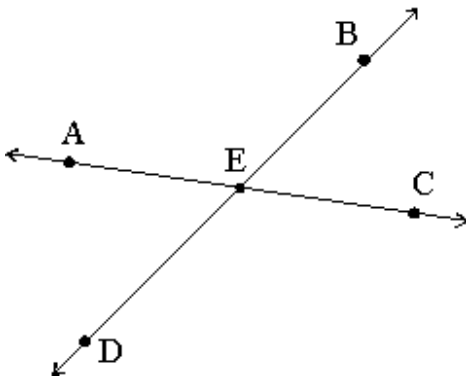
B) 30%

C) 40%

D) 50%

E) 100%

25. What is the perimeter of the following figure?

A) 15cm

B) 18cm

C) 21 cm

D) 36cm

E) 45cm
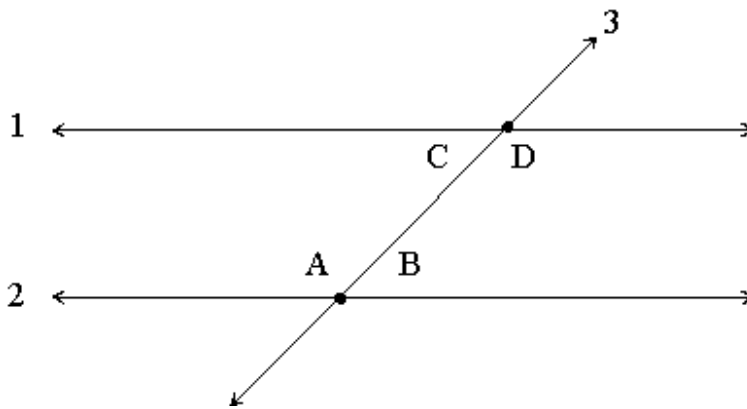
26. Angle AEC is a straight line. Angle BEC is 45°. What is the measure for angle AEB?

A) Angle BEC is 90°

B) Angle BEC is 115°

C) Angle BEC is 135°

D) Angle BEC is 180°

E) Angle BEC is 360°

Use the figure below to answer questions 27, 28 and 29.

27. Which of the following statements is true about the figure above?

   A) Lines 1 and 2 are parallel.
   B) Lines 1 and 3 are parallel.
   C) Lines 1 and 2 intersect.
   D) Line 1 bisects line 3.
   E) Line 2 corresponds with angle B.

28. In the figure above, which of the following is a pair of alternate interior angles?

   A) angle C and angle D
   B) angle A and angle B
   C) angle A and angle C
   D) angle B and angle D
   E) angle A and angle D

29. In the figure above, which of the following is an obtuse angle?

   A) line 1
   B) line 2
   C) line 3
   D) angle A
   E) angle B

30. To begin making her soup, Jennifer added four containers of chicken broth with 1 liter of water into the pot. Each container of chicken broth contains 410 milliliters. How much liquid is in the pot?

   A) 1.64 liters
   B) 2.64 liters
   C) 5.44 liters
   D) 6.12 liters
   E) 17.4 liters

31. What are the first 5 multiples of 8?

   A) 1, 2, 3, 4, 5
   B) 0, 2, 4, 6, 8
   C) 0, 8, 16, 24, 32
   D) 1, 8, 16, 24, 32
   E) 8, 16, 24, 32, 40

32. Which of the following demonstrates 25,125,652 in scientific notation?
   A) 2,512,565.2 10
   B) 251256.52 10^2
   C) 25,125.652 10^3
   D) 25.125652 10^6
   E) 2.5125652 10^7

33. What is 44/99 in the simplest form?

    A) 4/9
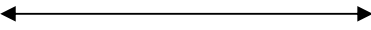   B) 4/5
    C) 11/99
    D) 14/19
    E) 44/99

34. According to the table below, which snack is made with no more than 4 grams of carbohydrates and between 4-6 grams of sugar?
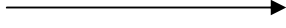
Snack (amount per serving)	Grams of carbohydrates per Serving	Grams of sugar per Serving
Snappy Cookies (3)	6	8
Snappy Crackers (8)	6	4
Snappy Cheese (2)	0	0
Snappy Twisters (4)	4	5
Snappy Chews (20)	0	5

    A) Snappy Cookies
    B) Snappy Crackers
    C) Snappy Cheese
    D) Snappy Twisters
    E) Snappy Chews

35. Which of the following is an example of a ray?

    A)

    B)
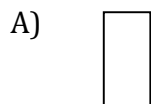
C)

D)

E)

36. All of the children are girls. Some of the girls like soccer. Some of the girls like cheerleading. Based on this data, which statement has to be correct?

    A) All girls like to play soccer.
    B) Some of the girls are 3 years old.
    C) Some of the girls like both soccer and cheerleading.
    D) Some of the children like soccer.
    E) Some of the girls do not like soccer or cheerleading.

37. Which of the following fractions is halfway between 2/5 and 4/9?

    A) 2/3
    B) 2/20
    C) 17/40
    D) 19/45
    E) 20/45

38. Fifteen ring boxes can fit into each case. If you have 100 ring boxes, how many cases do you need?

    A) 4 cases
    B) 5 cases

C) 6 cases

D) 7 cases

E) 8 cases

39. Which of the following is the largest number?

A) 1/2

B) 3/8

C) 7/16

D) 13/54

E) 89/287

40. Which number has no remainder when divided into 250?

A) 5

B) 15

C) 20

D) 30

E) 75

Math Test Answer Key

1. D	21. A
2. A	22. B
3. B	23. B
4. C	24. D
5. D	25. C
6. C	26. C
7. C	27. A
8. C	28. E
9. B	29. D
10. A	30. B
11. B	31. E
12. B	32. E
13. C	33. A
14. B	34. D
15. C	35. D
16. E	36. D
17. D	37. D
18. D	38. D
19. C	39. A
20. D	40. A

1. Answer: D

Experimental probability is a ratio of how many times the spinner will land on the specific number to the total number of times the spinner is spun. In this case, the boy landed on the number 6 a total of 14 times. He tried the spinner 100 times. The resulting ratio is 14/100.

2. Answer: A

Complementary angles are two angles that equal 90° when added together.

3. Answer: B

Multiply $120 by 24 months (a full two years) to get $2880. Add the thousand dollars for the down payment to get $3880. Find the difference between the entire amount all at once ($2600) and the amount pain in the plan ($3800). To find the difference, you subtract. The difference shows that $1280 more is paid with the installment plan.

4. Answer: C

$29 + r = 420$

$29 + r - 29 = 420 - 29$

$r = 391$

5. Answer: D

Area = length x width

$A = 7 \times 5$

$A = 35$

6. Answer: C

To solve, find the sum. 35% + 4% = 39%

7. Answer: C

Electronics sales $= x$

$x = 35 + (-2) + (-1) + (+6) + (-1) + (+2)$

$x = (35 + 6 + 2) + (-2 + (-1) + (-1))$

$x = (43) + (-4)$

$x = 39$

8. Answer: C

Solve as follows:

$5/8 = x/100$

$5 \cdot 100 \div 8 = x$

$x = 62.5$

9. Answer: B

These are supplementary angles. That means that the two angles will add up to a total of 180°, which is the angle of a straight line. To solve, subtract as follows:

b = 180° - 120°

b = 60°

10. Answer: A

To solve, you will need to move the decimal 4 places. Since the scientific notation had a negative power of 10, move the decimal left. If the power of 10 had been positive, you would have needed to move it to the right. In this problem, solve as follows:

7.4×10^{-4}

7.4 x 1/10,000

7.4 x 0.0001

0.00074

11. Answer: B

Add to solve. The height of the window from the floor is not needed in this equation. It is extra information. You only need to add the heights of the two bookcases. Change the fractions so that they have a common denominator. After you add, simply the fraction.

14½ + 8¾

= 14 2/4 + 8¾

= 22 5/4

= 23¼

12. Answer: B

Multiply the miles per hour by the number of hours traveled.

345 x 3 = 1035

13. Answer: C

10% of $1000 = $100

$1000 + $100 = $1100

10% of $1100 = $110

$1100 - $110 = $990

14. Answer: B

$y = x + 5$, and you were told that $x = -3$. Fill in the missing information for x, then solve.

$y = (-3) + 5$

$y = 2$

15. Answer: C

Let x stand for the amount that it would cost to make the 12-minute call. Solve with the following equation:

$15/2.50 = 12/x$

Cross multiply, as follows:

$15 \cdot x = 2.50 \cdot 12$

$15x = 30.00$

Divide each side by 15.

$15x/15 = 30.00/15$

$x = \$2.00$

16. Answer: E

Think of the numbers as they would be on a number line to place them in the correct order.

17. Answer: D

Rotational symmetry is defined as a figure that looks exactly the same after being rotated any amount. Answer choice D is the only example given that would stay the same if rotated.

18. Answer: D

You would write the negative square root of 100 as follows:

$-\sqrt{100}$

19. Answer: C

In this problem, if you do not know how to solve, try filling in the answer choices to see which one checks out. Many math problems may be solved by a guess and check method when you have a selection of answer choices.

$27 - x = -5$

$x = 32$

20. Answer: D

To estimate, round $4.05 to an even $4.00, then multiply by the number of people (15). The result is $60.

21. Answer: A

Add the numbers with x together, as follows: 5x + 4x = 9x

Add the y numbers, as follows: -2y + y = -y

Put the x and y numbers back into the same equation: 9x – y.

22. Answer: B

To solve, line up the like terms, as follows:

$$3x^2 + x + 3$$
$$+ \quad 8x^2 + 5x + 16$$
$$11x^2 + 6x + 19$$

23. Answer: B

If you draw a vertical line down the center of the letter V, the two sides will be symmetrical.

24. Answer: D

Out of the twelve numbers, half are even. That means there is a 50% chance that the spinner will land on an even number.

25. Answer: C

To find perimeter, add the sides.

26. Answer: C
A straight line is 180°. Subtract to solve: 180° - 45° = 135°

27. Answer: A
Lines 1 and 2 are parallel. If the parallel lines continued on into infinity, they would never cross. To *intersect* means that the lines cross. *Bisect* means that a line cuts another line or figure in two equal halves. To *correspond* means to match.

28. Answer: E
The degree measurement for alternate interior angles is exactly the same. In the figure, there are two pairs of alternate interior angles: B and C; A and D.

29. Answer: D
An obtuse angle is one that is more than 90° (a right angle) and less than 180°.
Answer choices A, B and C are not angles. Answer choice E, angle B, is an acute angle since it is small than a 90° angle.

30. Answer: B
410 ml x 4 containers = 1640 ml
Change to liters: 1640 ÷ 1000 = 1.64
Add the liter that was already in the pot: 1.64 + 1 = 2.64 liters

31. Answer: E
To solve:
8 x 1 = 8
8 x 2 = 16
8 x 3 = 24
8 x 4 = 32
8 x 5 = 40

32. Answer: E

There should be one number in the ones place, then all other numbers after the decimal. Count the numbers that have been moved past the decimal. That is the number that is placed in a superscript beside the number 10. If you then multiplied, you would be left with the original number.

33. Answer: A
Simplify the fraction by dividing both the numerator and the denominator by their greatest common factor. In this case, the greatest common factor is 11. When you do that, 44/99 becomes 4/9.

34. Answer: D
Snappy Twisters are the only ones that fall into the criteria listed in the question. The use of the words "no more than" is important to notice.

35. Answer: D
In math, a ray is a straight line extending out from a point. Answer choice C shows a straight line.

36. Answer: D
If all of the children are girls, and some of the girls like soccer, then some of the children must like soccer. None of the other statements can be deduced from the information given.

37. Answer: D
Find the common denominator for the two fractions so that you can compare them. You can use the common denominator of 45, as follows:
2/5 = 18/45
4/9 = 20/45
Look at the numerators: 18 and 20. The number halfway between them is 19, so the answer is 19/45

38. Answer: D

You would need 7 cases because 15 x 7 = 105. You would have some extra room in the last case, but 6 cases would only give you room for 90 and you need to be able to fit 100 ring boxes into cases.

39. Answer: A

The fraction of ½ is the same as 50%. None of the other fractions are equal to that.

40. Answer: A

250 ÷ 5 = 50

All of the other divisors leave a remainder, as follows:

250 ÷ 15 = 16 r. 10

250 ÷ 20 = 12 r. 10

250 ÷ 30 = 8 r. 10

250 ÷ 75 = 3 r. 25

Additional Information:

Praxis II Exams

Praxis I Test Help