THIRD SPACE LEARNING

7th Grade Tennessee State Practice Math Test

Tennessee Practice Test Grade 7

Grade 7

Questions

Name: ..... Class: .....

Date: ..... Score: .....

No Calculator For Questions 1 - 21

1 Which expression has the greatest value when $y = 100$?

A. $20 - y$
B. $y - 20$
C. $-20 - y$
D. $y - (-20)$

2 $\frac{3}{4}$ of a smoothie has $\frac{9}{10}$ of a cup of fruit. How many cups of fruit are in 1 smoothie?

A. $\frac{27}{40}$

B. $\frac{5}{6}$

C. $\frac{6}{5}$

D. $\frac{40}{27}$

3 Which expressions are equivalent to $3(x + 1.5) - 7.6x + 3$? Select the **two** correct answers.

A. $-4.6x + 4.5$
B. $2(-2.3x + 3.75)$
C. $3(2.5 + x) - 1.6x$
D. $7.5 - 4.6x$
E. $2.9x$

---

4 A jar contains yellow, blue, and purple marbles. The number of each type of marble in the jar is as follows:

- 17 yellow marbles
- 18 blue marbles
- 25 purple marbles

What is the probability that a marble chosen from the jar is NOT purple?

A. $\frac{17}{60}$

B. $\frac{5}{12}$

C. $\frac{5}{7}$

D. $\frac{7}{12}$

5 A pair of shoes that were originally $56.00 are on sale for 30% off. Then 7% of the cost is added as sales tax. Choose the equation representing the total cost of the shoes, including sales tax, c.

A. $56 \times 0.3 \times 0.07 = c$
B. $56 \times 0.3 + 1.07 = c$
C. $56 \times 0.7 \times 1.07 = c$
D. $56 \times 0.7 + 56 \times 0.07 = c$

---

6 Solve $-\frac{4}{5}(-3.4) =$ _____

Write your answer in the box provided.

Answer

---

7 Which expressions are equal to –36? Select **all** the correct answers.

A. $-3(-12)$
B. $108 \div (-3)$
C. $(-18)^2$
D. $\frac{-36}{-1}$
E. $3 \times (-3) \times (2) \times 2$

8 Which situation below will result in a final value of zero?

A. Walking from a parking garage that is –8 feet below ground level to the rooftop.
B. The overall change in temperature from 12 to –12.
C. A drone that flies from ground level to 25 feet above ground.
D. The balance of an account after a $20 deposit, if the starting balance was –$20.

---

9 Lily is planting 5 garden beds in her backyard. Each garden bed measures $6\frac{1}{2}$ feet wide by $12\frac{3}{4}$ feet long. Which expression best estimates the area, in square feet, that Lily will plant?

A. $5 \times (7 + 13)$
B. $5 \times 6 + 5 \times 12$
C. $13 \times 7 \times 5$
D. $5 \times (6 \times 12)$

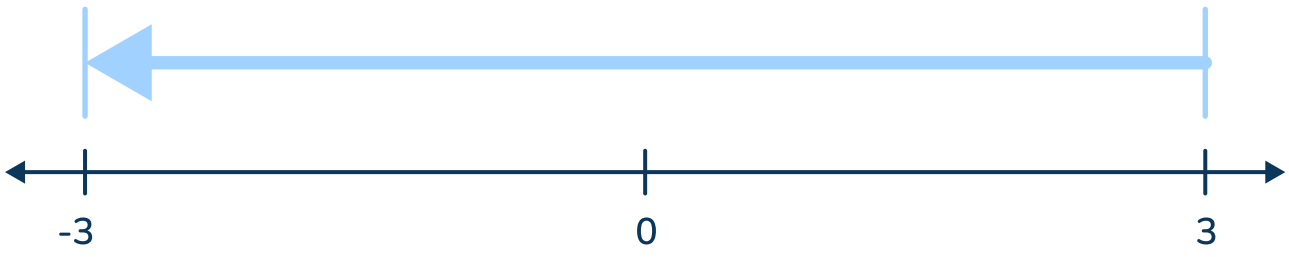
10 Solve $-5\frac{2}{3} - (-2\frac{3}{4}) =$ ____

Write your answer in the box provided.

Answer

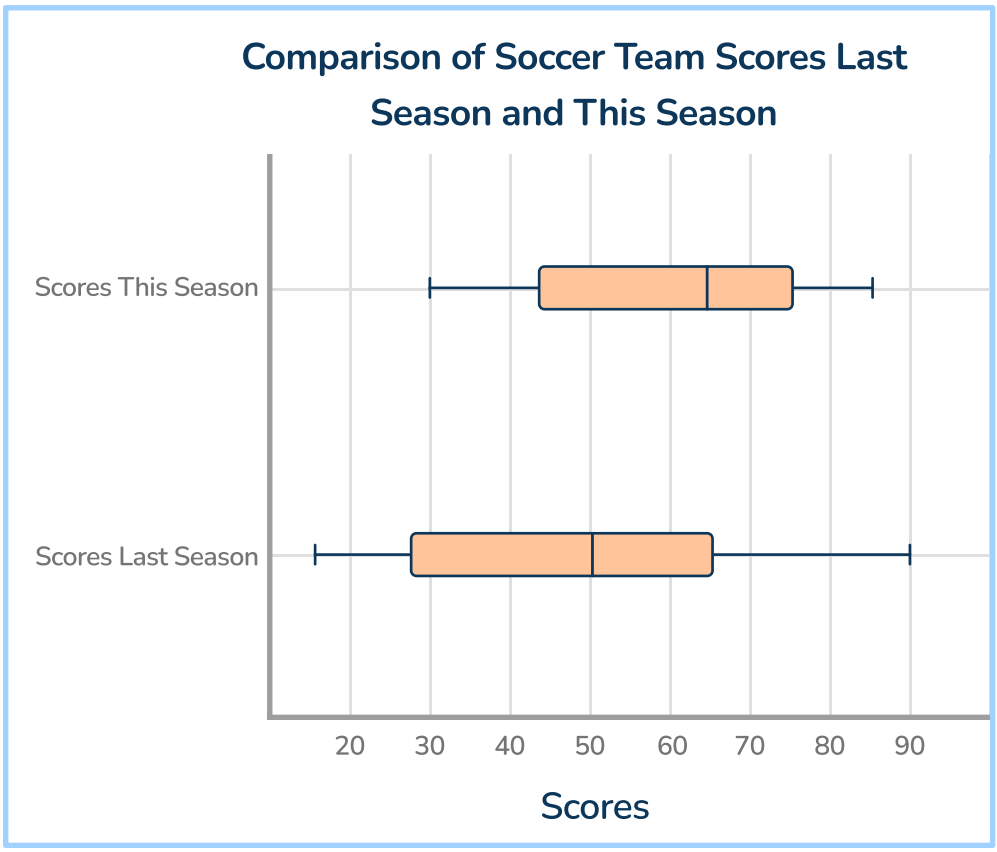
---

11 Which equations are shown by the number line? Select **all** the correct answers.



A. $3 + -6 = -3$
B. $3 + (-3) = 0$
C. $-3 - 6 = -3$
D. $-3 - (-3) = 0$
E. $3 - 6 = -3$

12 The two box plots show the scores for the school's soccer team from last season and this season.



Jamal says that, on average, the team performed better this season. Which statement about the box plots best supports his claim?

A. The scores for this season had less variability than last season.
B. All the scores from this season were higher than last season.
C. On average, the team did better last season, than this season.
D. The median for last season was greater than the median for this season.

13 Convert $\frac{7}{9}$ to a decimal.

A. 0.79
B. $0.\overline{7}$
C. 0.7
D. 7.9

---

14 The weather app shows the probability of rain tomorrow is 0.75. Which word is the best description of the likelihood of rain tomorrow?

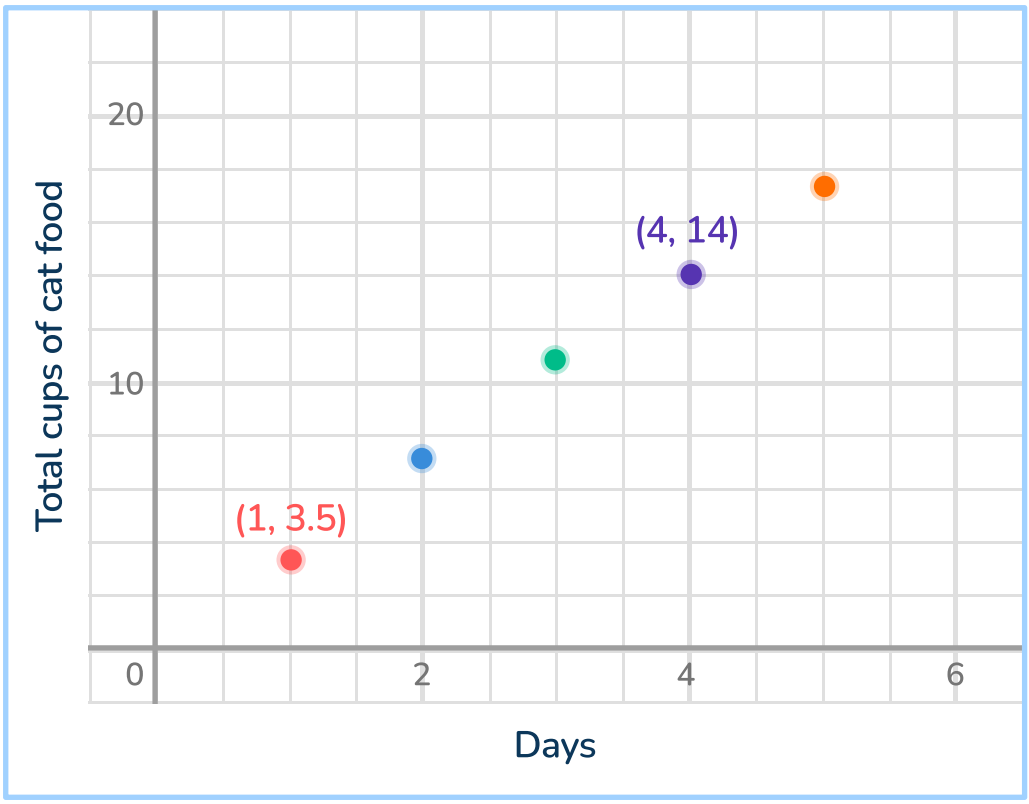
A. likely
B. unlikely
C. certain
D. impossible

---

15 In a fitness challenge, Liam walked 3 times as many steps as Ava and Noah combined. Liam walked 12,000 steps and Ava walked 1,500 steps.
Select an equation that could be solved to find the number of steps, s, that Noah walked.

A. $12{,}000 + 1{,}500 = 3s$
B. $3(1{,}500 + s) = 12{,}000$
C. $12{,}000 - (4{,}500 \div 3) = s$
D. $1{,}500 + 3s = 12{,}000$

16



Which statements about the graph are true? Select **all** the correct answers.

A. The relationship between days and the total cups of cat food is proportional.
B. The point (1, 3.5) is the unit rate of cups of cat food per day.
C. The point (4, 14) shows that after 14 days, the total cups of cat food is 4.
D. The equation is $3.5c = d$, where d represents days and c represents cups of cat food.
E. The point (6, 20) is a point on the line of the relationship.

17 Which value is closest to the difference of $\frac{44}{30} - \frac{7}{4}$?

A. $\frac{1}{2}$

B. $-\frac{1}{2}$

C. 1

D. -1

---

18 Which table shows a proportional relationship between x and y?

A.

x	0	2	4	8
y	0	3.5	5.5	9.5

B.

x	2	4	10	16
y	$\frac{1}{2}$	1	$2\frac{1}{2}$	4

C.

x	1	2	4	8
y	6	12	32	48

D.

x	0	1	4	7
y	5	6	9	12

19 Sofia is playing a game. Below are the details about the points she gains and loses.

- Started with 50 points.
- Lost 63 points.
- Gained back $\frac{1}{3}$ of the points lost.
- Lost half of the remaining points.

How many points does Sofia have now?

Write your answer in the box provided.

Answer

20 PART A

Ethan bought 5 books, each for the same price. He went to the store with $60 and left with $15.25. Choose the equation that represents the cost of each book, b.

A. $60 + 5b = 15.25$
B. $5b - 60 = 15.25$
C. $5b + 15.25 = 60$
D. $60 - 15.25b = 5$

PART B

What was the cost of one book?

Write your answer in the box provided.

Answer

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21 A teacher wants to know the favorite sport of all the students at his school. Which sampling process will be *most* representative of the population?

A. The teacher surveys the students in the soccer club.
B. The teacher surveys every third student who walks into the school that morning.
C. The teacher surveys the students in his 3rd and 4th period classes.
D. The teacher surveys every other student in the car rider line that afternoon.

THIS IS THE END OF SUBPART 1 OF THE MATH PRACTICE TEST.

Calculator Can Be Used For Questions 22 - 45

YOU MAY USE A CALCULATOR IN SUBPART 2 OF THIS TEST.

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22 Which expression is equivalent to -42x + 12?

A. 6(7x + 2)
B. -3(14x + 4)
C. -3(-14x - 4)
D. -6(7x - 2)

---

23 The table below shows the proportional relationship between x and y. What is the constant of proportionality?

x	y
3	0.75
5	1.25
6	1.5
9	2.25

Write your answer in the box provided.

Answer

24 Jahkai is three years older than his brother Dean. Dean is twice the age of their sister Tahnee. Which equation(s) show the relationship between Jahkai's age, j, and Tahnee's age, t. Select **all** the correct answers.

A. $\frac{j-3}{2} = t$

B. $6 + 2j = t$

C. $2t + 3 = j$

D. $2(j + 3) = t$

E. $2(j + 3) = j$

---

25 Elliana made a scale drawing of her school playground. In her drawing, the length of the playground is 12 inches and the width is 9 inches. The scale on her drawing shows that 1 inch represents 15 feet. What is the actual area of the playground?

A. 540 square feet

B. 1,620 square feet

C. 6,075 square feet

D. 24,300 square feet

26 Ashur runs $8\frac{1}{2}$ miles in $1\frac{3}{4}$ hours. What is his average speed in miles per hour?

A. $4\frac{6}{7}$ mph

B. $\frac{7}{34}$ mph

C. $6\frac{3}{4}$ mph

D. $14\frac{7}{8}$ mph

---

27 Which expressions are equivalent to $\frac{3}{4}(4 + 8x) - 12(\frac{2}{3}x + b)$? Select **all** the correct answers.

A. $8x - 12b + 3$

B. $3(1 + 2x - 4x - 4b)$

C. $2x + 3 + 12b$

D. $3 + -2x - 12b$

E. $-2(x + 6b) + 3$

28 Nila and Asante were comparing the price of dates, d, to kiwi, k.

Nila's equation: $d = k + 0.4k$
Asante's: $1.4k = d$

Which statement about the equations is correct?

A. Asante's equation shows that the price of dates is 140% the price of kiwi.
B. Nila's equation shows kiwis cost 40% more than dates.
C. Asante's equation shows that the price of kiwi is 1.4% the price of dates.
D. Nila's equation shows that dates cost 4% more than kiwi.

---

29 Jordan rolls a fair, six-sided die 1,200 times. Each side of the die is numbered 1 through 6. According to theoretical probability, how many times should Jordan expect to roll a number less than 3?

Write your answer in the box provided.

Answer

30 You work as a dog walker and are paid $40 per week plus $5 for each dog you walk. This week, you want to earn at least $120. How many dogs do you need to walk to meet your goal?

Graph the solution on the number line given.

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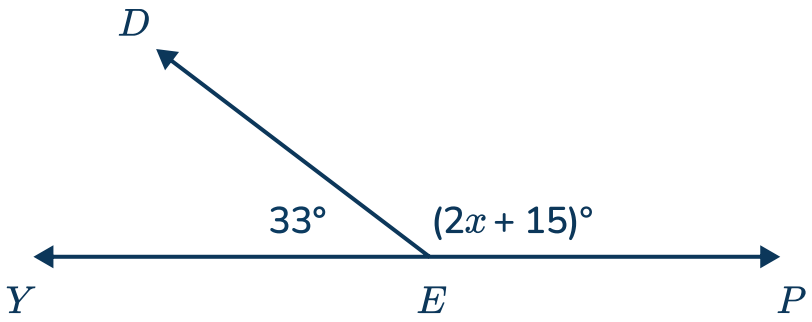
31 The figure shows line YP and two angles formed by ray ED. Solve for x.



A. 66
B. 9
C. 147
D. 132

32 A class gathered data on the number of hours students spend on homework each week. They found that most students spend between 3 and 5 hours, but a few students spend over 15 hours each week.

Choose a measure of center **and** a measure of variability that would best describe this data.

A. mean and range
B. median and interquartile range
C. mode and quartile 3 (Q3)
D. range and interquartile range

---

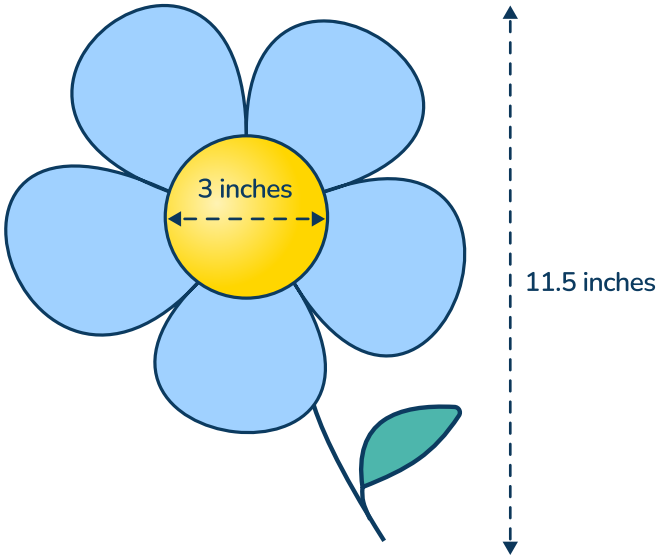
33 An animal shelter adopted 12 pets this week, leaving 30 pets at the shelter. What was the percent change in pets at the shelter this week? Round to the nearest tenth of a percent.

A. 40%
B. 2.5%
C. 28.6%
D. 71.4%

THIS IS THE END OF SUBPART 2 OF THE MATH PRACTICE TEST.

YOU MAY USE A CALCULATOR IN SUBPART 3 OF THIS TEST.

34 Quinn owns a flower shop. He sends a drawing to a designer to use on a business card. He asks the designer to make the flower $\frac{1}{4}$ the original size.



What will the area of the center of the flower be on the business card? Round to the nearest hundredth.

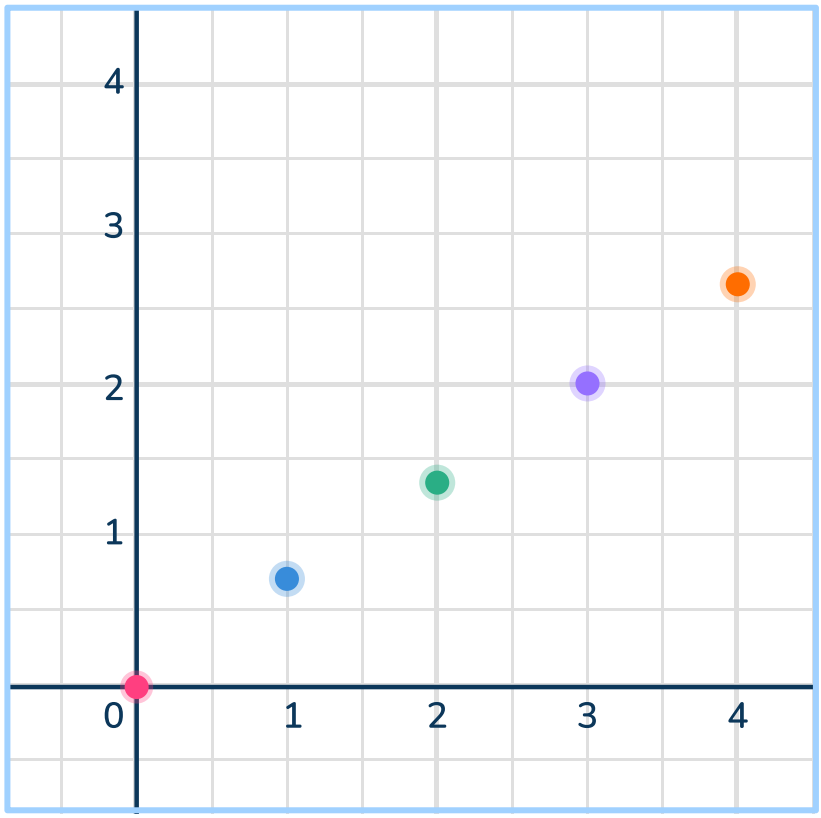
A. 0.44 inches²
B. 1.76 inches²
C. 4.71 inches²
D. 7.07 inches²

35 There are three different colors of buttons in a bag. If the probability of choosing a blue button is $\frac{1}{4}$. The probability of choosing a yellow button is $\frac{2}{5}$. What is the probability of choosing a red button? Show the probability as a fraction.

Write your answer in the box provided.

Answer

36



What is the constant of proportionality of the relationship shown in the graph?

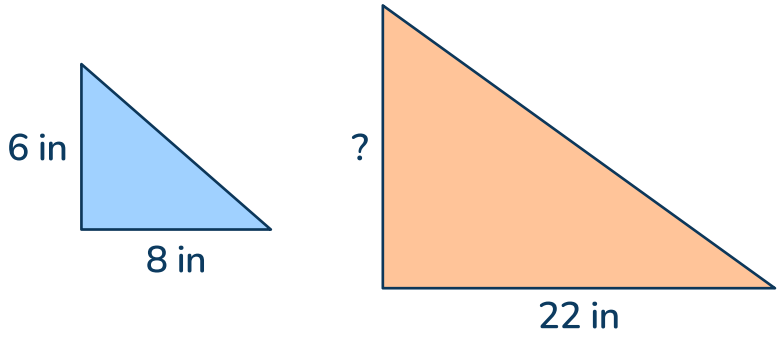
A. $\frac{2}{3}$

B. $1\frac{1}{2}$

C. 3

D. 2

37 The orange triangle is an enlargement of the blue triangle. What is the missing height?



Write your answer in the box provided.

Answer

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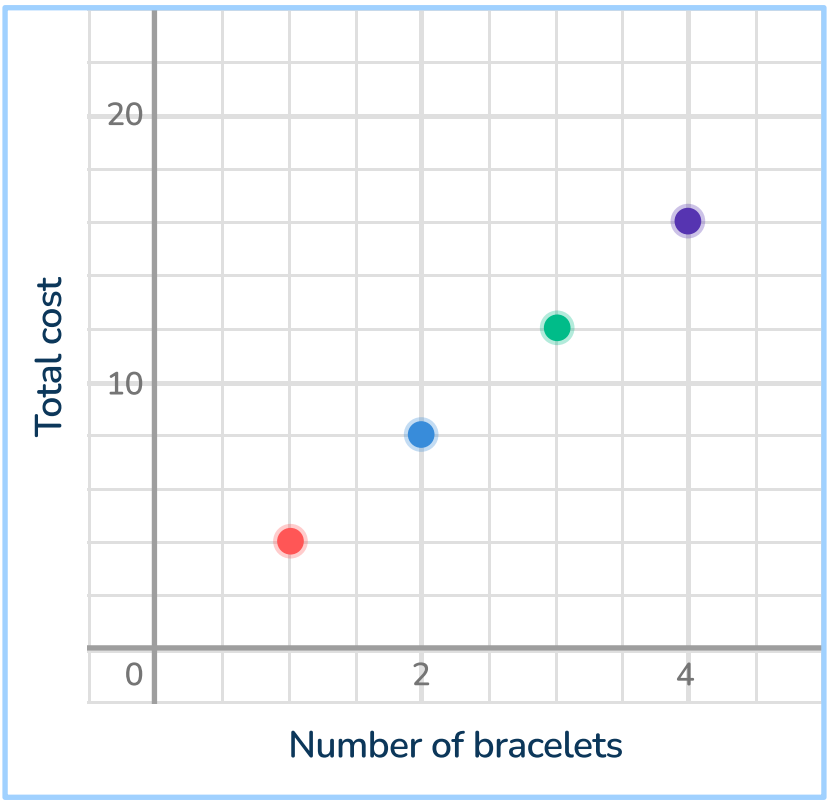
38 Noah mows lawns for $12 each. He has already mowed 3 lawns and wants to earn at least $75. Which inequality represents how many more lawns Noah needs to mow?

A. $12l + 12 \times 3 \geq 75$
B. $36 + 12l \leq 75$
C. $12 + 3l \geq 75$
D. $12 \times 3 + 12l = 75$

39



Write an equation to determine the total cost, c, depending on the number of bracelets, b.

Write your answer in the box provided.

Answer

40 Erwin earns $20.34 per hour and works 40 hours per week. Erwin is paid every 2 weeks, and he puts $\frac{1}{5}$ of his check into savings.
How much money does Erwin save after 6 weeks?

A. $976.32
B. $1,981.44
C. $488.16
D. $3,905.28

41 Which expression is equivalent to $2x + \frac{3}{4}$?

A. $8\frac{3}{4}x$

B. $\frac{1}{4}(8x + 3)$

C. $\frac{2x + 3}{4}$

D. $2(x + \frac{6}{4})$

---

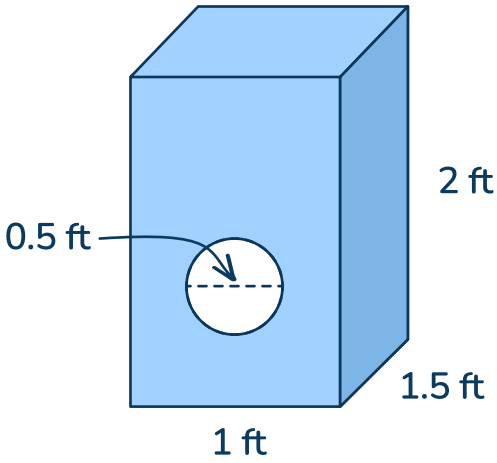
42 The circumference of a circle is 16π. What is the area of the circle, in terms of pi?

Write your answer in the box provided.

Answer

43 Kala makes rectangular shaped birdhouses. Kala cuts out a circle in the front and then paints all sides of the birdhouse.

Write your answer in the box provided.



How much paint, in square feet, does Kala use to paint 1 birdhouse? Round to the nearest tenth.

A. 6.5 ft^2
B. 5.7 ft^2
C. 10.8 ft^2
D. 12.2 ft^2

44 A gym surveyed 60 of their members about the number of times they work out at the gym each month. The table below shows the results.

Number of visits per month	Number of members
1-5	11
6-10	15
10-15	18
16-20	6
21 or more	4

There are 420 total members at the gym. What is the best estimate for the number of members who will work out less than 16 times in the next month?

A. 44
B. 50
C. 70
D. 308

---

45 $5(x - 6) = 235$

What is the value of x?

Write your answer in the box provided.

Answer

THIS IS THE END OF THE TEST.

Answer Key

Item number	Correct answer	Standard(s)	DOK
1	D	**7.NS.A.1c**	DOK 1
2	C	**7.RP.A.1**	DOK 2
3	B, D	**7.EE.A.1**	DOK 1
4	D	**7.SP.C.7**	DOK 2
5	C	**7.RP.A.3**	DOK 2
6	2.72 or equivalent	**7.NS.A.2c**	DOK 1
7	B, E	**7.NS.A.2a, 7.NS.A.2b**	DOK 1
8	D	**7.NS.A.1a**	DOK 2
9	C	**7.EE.B.3b**	DOK 1
10	$-2\frac{11}{12}$ or equivalent	**7.NS.A.1c**	DOK 1
11	A, E	**7.NS.1a, 7.NS.1b**	DOK 2
12	A	**7.SP.B.4**	DOK 2
13	B	**7.NS.A.2d**	DOK 1
14	A	**7.SP.C.5**	DOK 1
15	B	**7.G.B.3**	DOK 2
16	A, B	**7.RP.A.2**	DOK 2
17	B	**7.NS.A.1c**	DOK 2

Item number	Correct answer	Standard(s)	DOK
18	B	**7.RP.A.2a**	DOK 1
19	4	**7.NS.A.3**	DOK 2
20	C; $8.95	**7.EE.B.4a**	DOK 2
21	B	**7.SP.A.1**	DOK 2
22	D	**7.EE.A.1**	DOK 1
23	0.25	**7.RP.2b**	DOK 1
24	A, C	**7.EE.A.2, 7.EE.B.4b**	DOK 2
25	D	**7.G.A.1**	DOK 2
26	A	**7.RP.A.1**	DOK 2
27	D, E	**7.EE.A.1**	DOK 1
28	A	**7.EE.A.2, 7.RP.A.3**	DOK 2
29	400	**7.SP.C.6**	DOK 2
30		**7.EE.B.4b**	DOK 2
31	A	**7.G.B.4**	DOK 2
32	A	**7.SP.D.8**	DOK 2
33	C	**7.RP.A.3**	DOK 2
34	B	**7.G.A.1, 7.G.B.3**	DOK 2
35	$\frac{7}{20}$	**7.SP.C.7**	DOK 2
36	B	**7.RP.A.2b**	DOK 1

Item number	Correct answer	Standard(s)	DOK
37	16.5	**7.G.A.1**	DOK 2
38	A	**7.EE.B.4b**	DOK 2
39	4b = c	**7.RP.A.2c**	DOK 2
40	A	**7.EE.B.3**	DOK 2
41	B	**7.EE.A.1**	DOK 1
42	64π	**7.EE.B.4a**	DOK 2
43	C	**7.G.B.5**	DOK 2
44	D	**7.SP.A.2**	DOK 2
45	53	**7.EE.B.4a**	DOK 1

ANSWERS SORTED BY REPORTING CATEGORY

Number Relationships (7.NS.A)			
1	D	**7.NS.A.1c***	DOK 1
6	2.72 or equivalent	**7.NS.A.2c***	DOK 1
7	B, E	**7.NS.A.2a*, 7.NS.A.2b***	DOK 1
8	D	**7.NS.A.1a***	DOK 2
10	$-2\frac{11}{12}$ or equivalent	**7.NS.A.1c***	DOK 1
11	A, E	**7.NS.1a*, 7.NS.1b***	DOK 2
13	B	**7.NS.A.2d***	DOK 1
17	B	**7.NS.A.1c***	DOK 2
19	4	**7.NS.A.3***	DOK 2

Expressions and Equations (7.EE.A, 7.EE.B)			
3	B, D	**7.EE.A.1***	DOK 1
9	C	**7.EE.B.3b***	DOK 1
20	C; $8.95	**7.EE.B.4a***	DOK 2
22	D	**7.EE.B.4a***	DOK 1
24	A, C	**7.EE.A.2*, 7.EE.B.4b***	DOK 2
27	D, E	**7.EE.A.1***	DOK 1
28	A	**7.EE.A.2*, 7.RP.A.3***	DOK 2
30		**7.EE.B.4b***	DOK 2
38	A	**7.EE.B.4b***	DOK 2
40	A	**7.EE.B.3***	DOK 2
41	B	**7.EE.A.1***	DOK 1
42	64π	**7.EE.B.4a***	DOK 2
45	53	**7.EE.B.4a***	DOK 1

Geometry and Data (7.G.A, 7.G.B, 7.SP.A, 7.SP.B, 7.SP.C, 7.SP.D)			
4	D	**7.SP.C.7**	DOK 2
12	A	**7.SP.B.4**	DOK 2
14	A	**7.SP.C.5**	DOK 1
15	B	**7.G.B.3**	DOK 2
21	B	**7.SP.A.1**	DOK 2
25	D	**7.G.A.1**	DOK 2
29	400	**7.SP.C.6**	DOK 2
31	A	**7.G.B.4**	DOK 2
32	A	**7.SP.D.8**	DOK 2
34	B	**7.G.A.1, 7.G.B.3**	DOK 2
37	16.5	**7.G.A.1**	DOK 2
43	C	**7.G.B.5**	DOK 2
44	D	**7.SP.A.2**	DOK 2

Proportional Reasoning (7.RP.A)			
2	C	**7.RP.A.1***	DOK 2
5	C	**7.RP.A.3***	DOK 2
16	A, B	**7.RP.A.2***	DOK 2
18	B	**7.RP.A.2a***	DOK 1
23	0.25	**7.RP.2b***	DOK 1
26	A	**7.RP.A.1***	DOK 2
33	C	**7.RP.A.3***	DOK 2
35	$\frac{7}{20}$	**7.SP.C.7***	DOK 2
36	B	**7.RP.A.2b***	DOK 1
39	4b = c	**7.RP.A.2c***	DOK 2

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