THIRD SPACE LEARNING

7th Grade CA CSS State Test

State Test Grade 7

Grade 7

Questions

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

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

1 Which expression has the greatest value when $x = 35$?

A. $x - 5$
B. $x - (-5)$
C. $5 - x$
D. $-5 - x$

2 $\frac{2}{3}$ of a serving has $\frac{2}{5}$ of a cup of fruit. How many cups of fruit are in 1 serving?

A. $1\frac{1}{8}$

B. $1\frac{1}{5}$

C. $\frac{4}{8}$

D. $\frac{3}{5}$

3 Which expressions are equivalent to $-6.3(2y-1)+5y-7$? Select all the correct answers.

A. $-6.3y+5y$
B. $5y-12.6y-0.7$
C. $-6.3y-7$
D. $-7.6y-0.7$
E. $6.3y$

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4 A bag contains red marbles, blue marbles and green marbles. The number of each of the marbles in the bag is as follows:

- 20 red marbles
- 15 blue marbles
- 10 green marbles

What is the probability that the marble selected is NOT green?

A. $\frac{10}{45}$

B. $\frac{7}{9}$

C. $\frac{3}{9}$

D. $\frac{4}{9}$

5 A pair of headphones that were originally $79.00 are on sale for 40% off. After the discount and the addition of a 7% sales tax. How much will you pay for the headphones? Choose the equation representing the total cost, c.

A. $79 \times 0.4 \times 0.07 = c$
B. $79 \times 0.4 + 1.07 = c$
C. $(79 \times 0.6) \times 1.07 = c$
D. $79 \times 0.6 + 79 \times 0.07 = c$

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6 A store sells a 12-pack of soda for $8.99. They also sell an 18-pack of soda for $14.99. What is the difference between the unit rates?

A. $0.84 per pack
B. $1.33 per pack
C. $0.50 per pack
D. $2.16 per pack

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7 Which expressions are equal to –35? Select all the correct answers.

A. –7(–5)
B. 70 ÷ (–2)
C. $\frac{-35}{-1}$
D. 2 x (–17.5)
E. 3 + (–4) x (–5)

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

A. The balance of an account after a $15 payment, if the starting balance was –$25.
B. A decrease of 12 degrees from the temperature 12.
C. Walking from a train platform that is -10 feet below sea level to the street.
D. A hot air balloon that goes from sea level to 7 meters above sea level.

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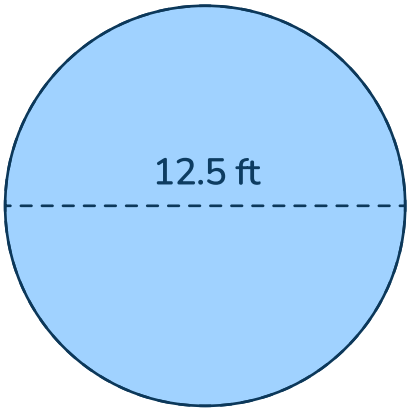
9 Which value of y makes the equation true?

$$-12y - 2(y + 9) = 5(y + 4)$$

A. $y = -2$
B. $y = 4$
C. $y = -4$
D. $y = 2$

10 The city is building a new fence around their water tower, shown in the diagram below.



How many feet of fencing is needed to enclose the water tower?

A. 78.54 ft
B. 39.27 ft
C. 39.485 ft
D. 78.94 ft

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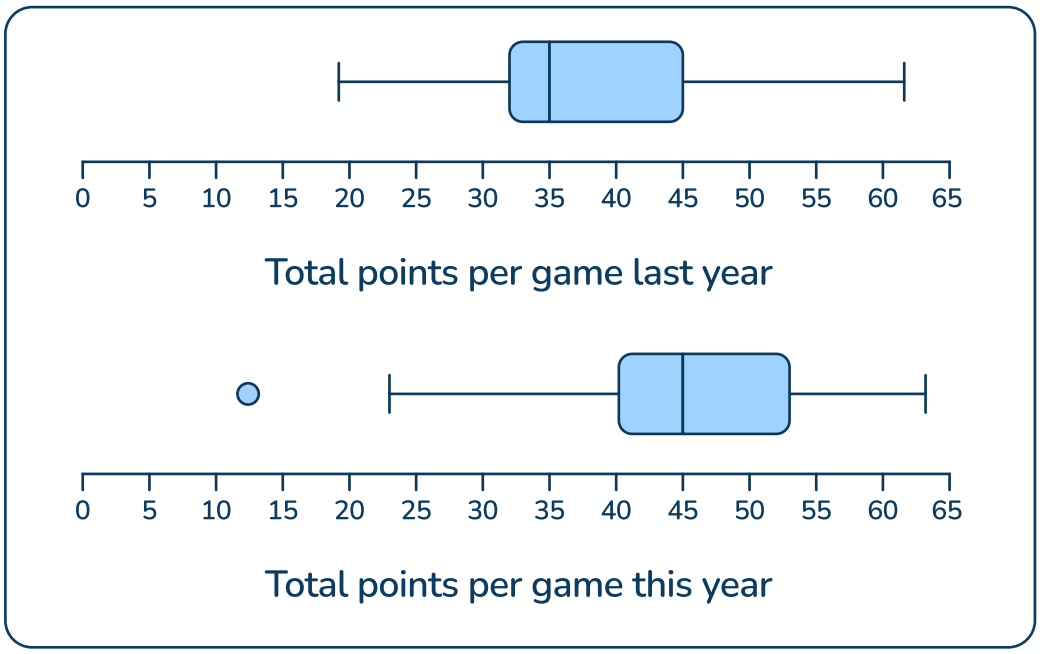
11 The table below shows the proportional relationship between x and y. What is the constant of proportionality?

x	y
2	11
5	27.5
7	38.5
8	44

A. 5.5
B. 9
C. 3.5
D. 7

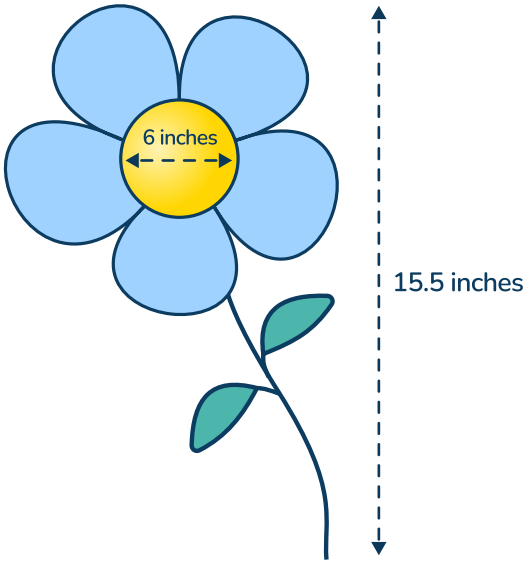
12 The two box plots show the total points per game for the school's basketball team last year and this year.



Rasheem says that on average, the team was better this year. Which statement about the box plot supports his conclusion?

A. There is an outlier of 10 from the games this year, but no outlier for last year.
B. All the games from this year scored more points than last year.
C. More than half of this year's games had more points than the top 25% of last year's.
D. The range for this year is larger than the range for last year.

13 Zane owns a flower shop. He sends the drawing below to be designed for his business cards.



He asks the designer to design a flower that is $\frac{1}{4}$ the original size.
What will the area of the center of the flower be on the business card? Round to the nearest hundredth.

A. 1.77 inches^2
B. 1.5 inches^2
C. 21.26 inches^2
D. 0.75 inches^2

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14 The weather app indicates that 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 Solve for r.

$$\frac{1}{4}r + 4 \geq -2$$

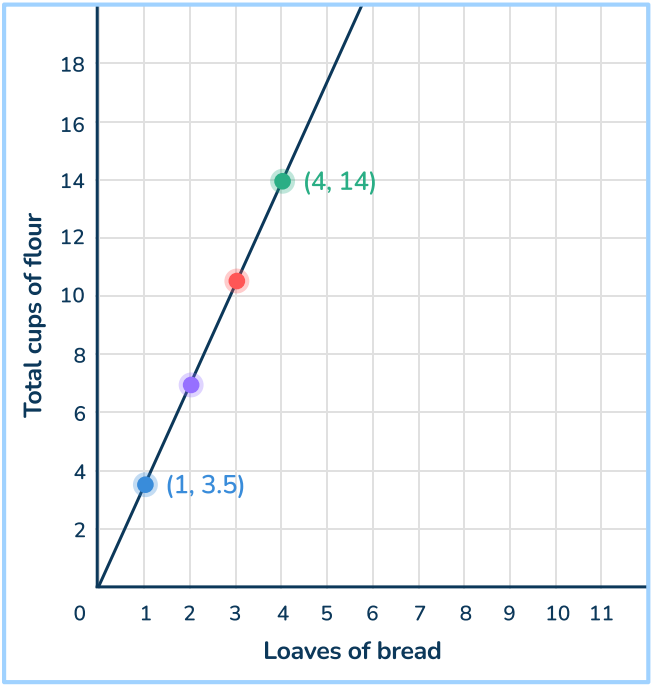
A. $r \geq -24$

B. $r \geq \frac{1}{4}$

C. $r \geq 1\frac{1}{4}$

D. $r \geq 2.5$

16



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

A. The relationship between the loaves of bread and the total cups of flour is proportional.

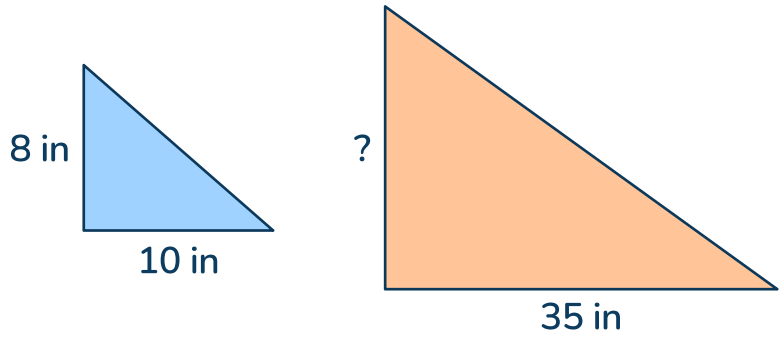
B. The point (1, 3.5) is the unit rate per loaf.

C. The point (4, 14) shows that after 4 loaves, the total cups of flour is 14.

D. The point (3, 11) is a point on the line.

E. As the total cups of flour increases by 1, the number of loaves increases by 3.5.

17 The orange triangle is a scaled version of the blue triangle. What is the missing height?



A. 3.5 in
B. 33 in
C. 6.5 in
D. 28 in

---

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

A.

x	0	1	2	3
y	0	2	3	4

B.

x	1	2	4	8
y	4	8	12	16

C.

x	0	3	4	7
y	1	6	8	14

D.

x	6	8	12	20
y	3	4	6	10

19 What is the value of the expression?

$$\frac{3 + \frac{1}{2} \times 5 - 5.2^2}{-3 \times 3}$$

A. 0.166
B. –0.25322
C. $2.3933\overline{3}$
D. 0.255

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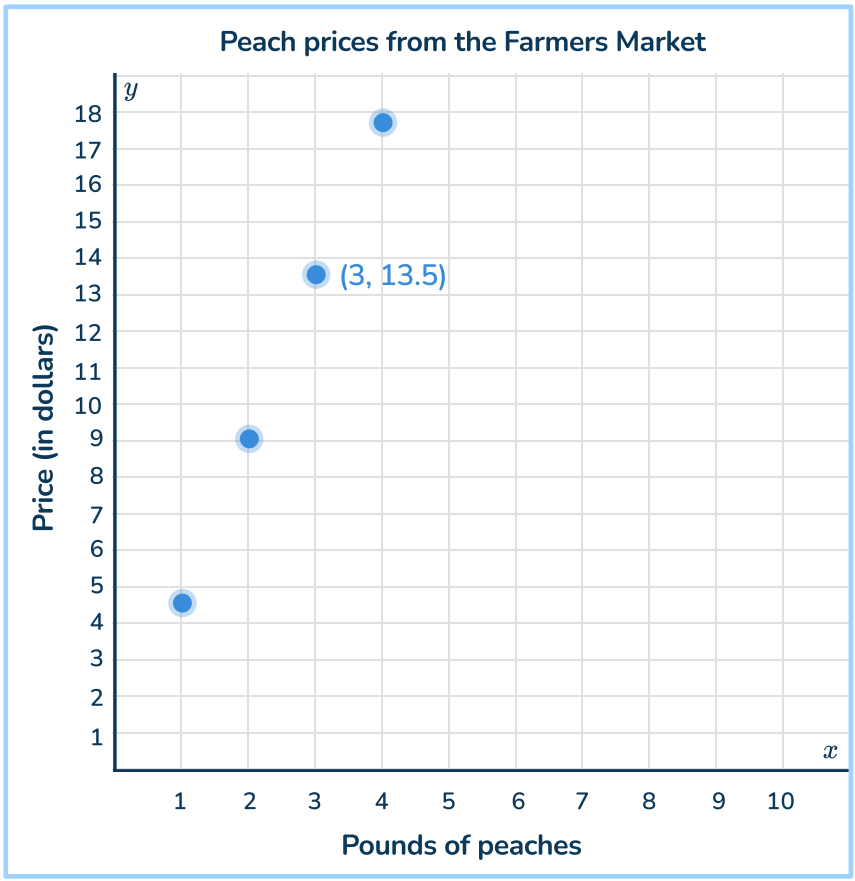
20 Sasha bought 4 puzzles at the same price. Sasha went to the store with $37 and left with $8.25. Choose the equation and solution that represents the cost of each puzzle, p.

A. $37 - 4p = 8.25, g = 9.25$
B. $4p - 37 = 8.25, g = 10.75$
C. $4p + 8.25 = 37, g = 9.50$
D. $37 - 8.25p = 4, g = 8.50$

21 What does point (3, 13.5) mean in the context of the graph below?



A. 13.5 pounds of peaches cost $3
B. 3 pounds of peaches cost $13.50
C. 3 peaches cost $13.50
D. 13.5 peaches cost $3.00

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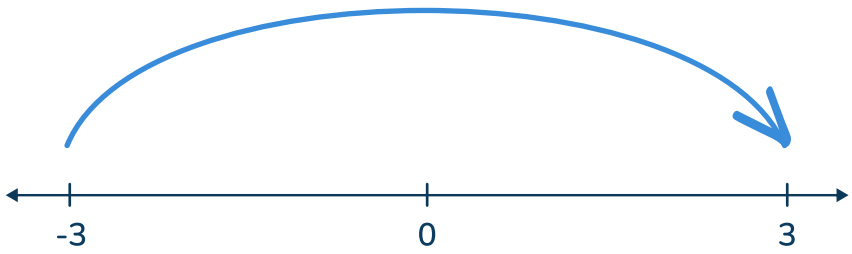
22 Which expression is equivalent to $56x - 8$?

A. $-8(-7x + 1)$
B. $7(8x + 1)$
C. $-8(7x + 1)$
D. $-7(-8x - 1)$

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



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

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24 Samuel is four years older than his brother Caleb. Caleb is three times the age of their sister Margo. Which equation(s) show the relationship between Caleb's age, c, and Margo's age, m. Select all the correct answers.

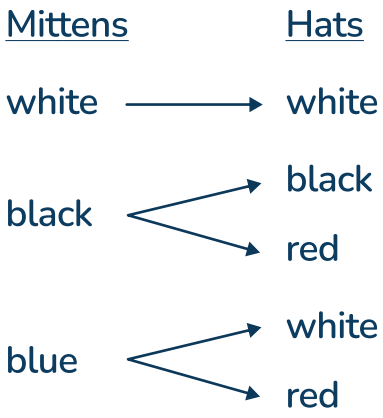
A. $\frac{S-4}{3} = m$
B. $10 + 2c = m$
C. $2(s+5) = m$
D. $2m + 5 = s$
E. $2(m+5) = s$

25 There are 3 colors of mittens and 3 colors of hats.

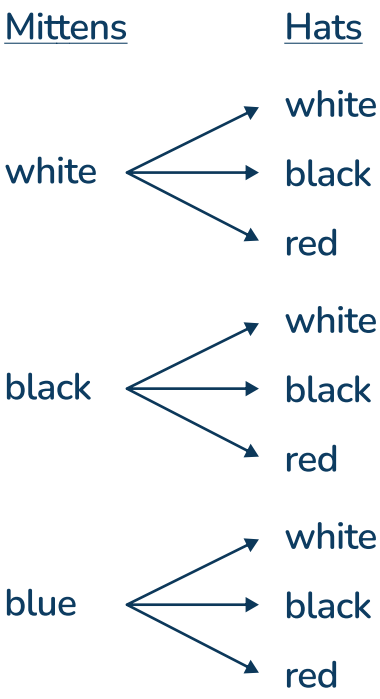
Mittens: White, black, blue
Hats: white, black, red

Which is the correct sample space for all possible combinations of socks and shoes?

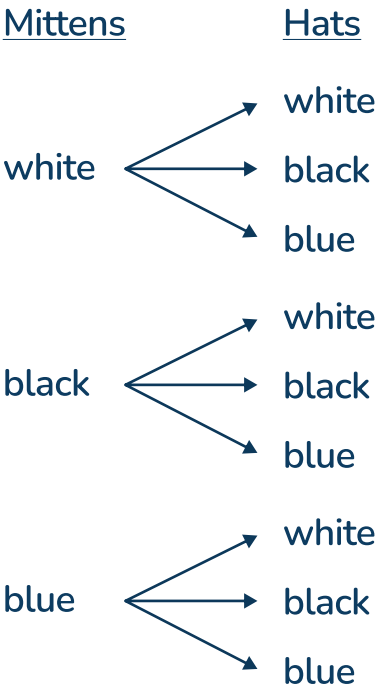
A.



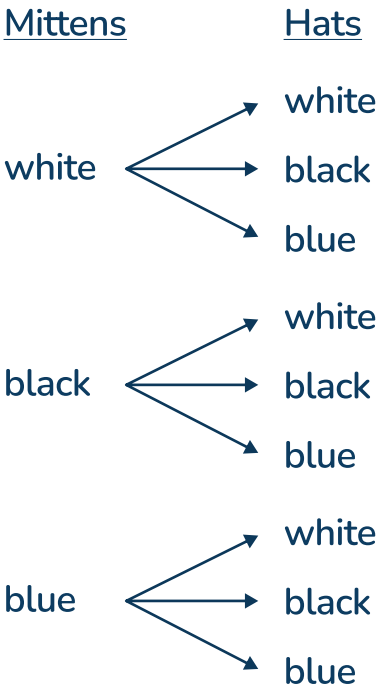
C.



B.



D.



26 Brett runs $6\frac{1}{4}$ miles in $1\frac{1}{2}$ hours. What is his average speed in miles per hour?

A. $7\frac{1}{3}$ mph

B. $4\frac{1}{6}$ mph

C. 7 mph

D. $1\frac{1}{2}$ mph

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27 Francis is solving the two equations below. She says, "I can just solve expression a because expression b will have the same answer." Do you agree? Why or why not?

- Expression a: -3 +2.5
- Expression b: 2.5 + (-3)

A. Yes, because subtracting is the same as adding the opposite.
B. No, because you cannot subtract a larger number from a smaller one.
C. Yes, because the expressions have the same numbers.
D. No, because the terms in each expression are opposites.

28 Helena and Jace were comparing the price of bananas, b, to apples, a.

Helena's equation: $b = a + 0.3a$
Jace's equation: $1.3a = b$

Which statement about the equations is correct?

A. Helena's equation shows bananas cost 30% more than apples.
B. Jace's equation shows that bananas cost 130% more than apples.
C. Jace's equation shows that apples cost 1.3% more than bananas.
D. Helena's equation shows that apples cost 3% more.

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29 The equation $26.25x = y$ models the cost, in dollars, for a ticket to the art museum. The table models the cost, y, for a ticket to the aquarium.

x	2	4	5
y	\$85.00	\$170.00	\$212.50

Which comparison statement is true?

A. 1 aquarium ticket costs \$42.50 more than 1 art museum ticket
B. 1 art museum ticket costs \$16.25 more than 1 aquarium ticket
C. 1 art museum ticket and 1 aquarium ticket cost \$16.25
D. 1 aquarium ticket costs \$16.25 more than 1 art museum ticket

30 Evaluate the following expression: $(7)(-0.8)(\frac{7}{8})$.

A. –4.9
B. 4.9
C. 9.4
D. –9.4

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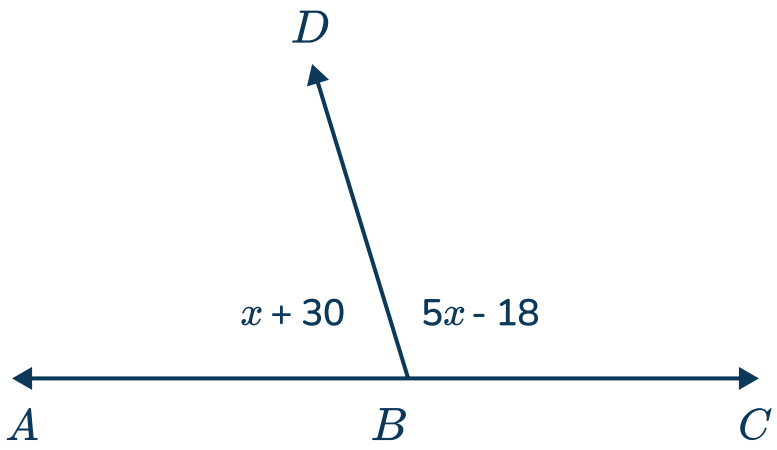
31 The figure shows line AC and two angles formed by ray BD. Solve for x.



A. 128
B. 28
C. 52
D. 180

32 Pedro bought three packs of socks for $22.99 each. He also bought a wallet for $12. What was the total cost, including a 7% sales tax?

A. $86.64
B. $80.97
C. $73.92
D. $57.98

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33 A clothing store sold 16 t-shirts today, leaving 48 shirts at the store. What was the percent change in shirts at the store today?

A. 50%
B. 300%
C. 30%
D. 25%

---

34 Convert $\frac{3}{8}$ to a decimal.

A. 37.5
B. 0.375
C. $0.\overline{37}$
D. 3.75

35 There are three different colors of marbles in a bag. If the probability of getting blue is $\frac{1}{4}$ and the probability of getting yellow is $\frac{2}{3}$, what is the probability of getting red?

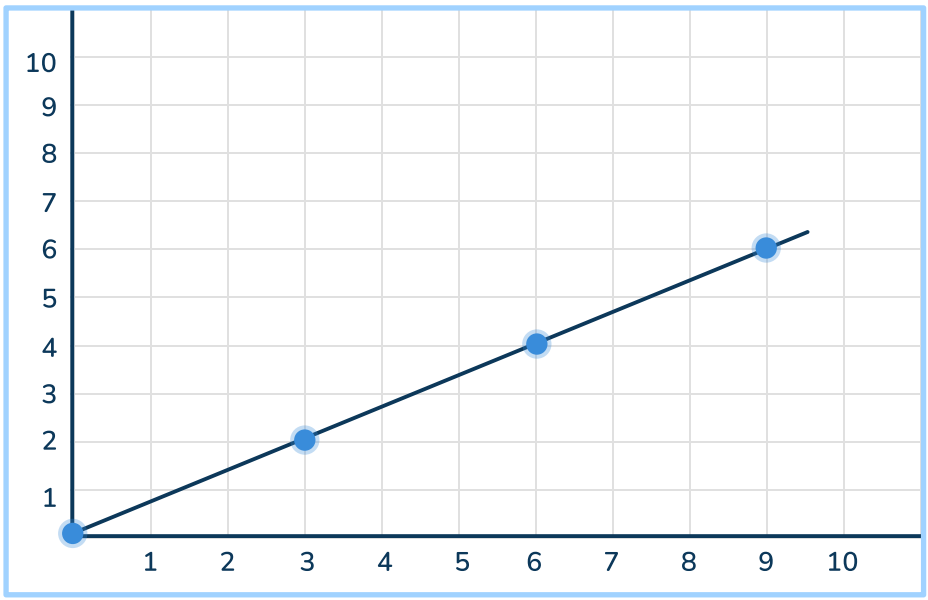
A. $\frac{11}{12}$

B. $\frac{10}{12}$

C. $\frac{1}{12}$

D. $\frac{8}{12}$

36



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

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

B. 2

C. $\frac{3}{5}$

D. 3

37 Which value is closest to the difference of $\frac{28}{15} - \frac{17}{12}$?

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

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

C. 1

D. -1

---

38 Kenny sells bean plants for $6 each. He has already sold 8 bean plants, b. He wants to earn at least $100. Write an inequality to represent the situation.

A. $8b + 6 \geq 100$

B. $6b + 48 \geq 100$

C. $8b + 6 \leq 100$

D. $6b + 48 \leq 100$

39 What is the equation shown by the table?

x	y
3	14.7
6	29.4
8	39.2

A. $11.7x = y$
B. $11.7 + x = y$
C. $4.9 + x = y$
D. $4.9x = y$

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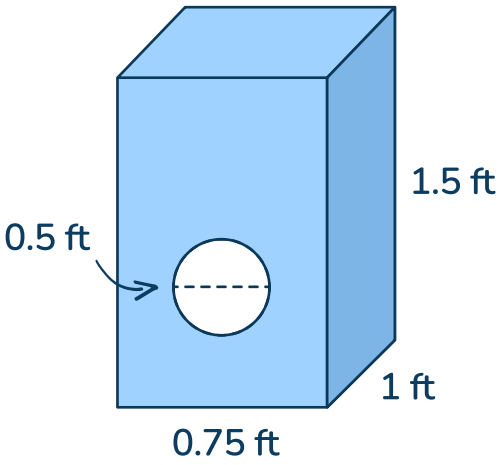
40 Will earns $18.75 per hour and works 32 hours per week. Will is paid every 2 weeks, and he puts 10% of his check into savings. How much money does Will save after 8 weeks?

A. $960
B. $120
C. $480
D. $1,200

Standard: 7.NS.3, 7.G.4, 7.G.6, 7.RP.3
DOK 3
Extended Answer Response - 6 points

41 Cassie paints and sells birdhouses. The paint costs $22.99 a gallon and each gallon paints 450 square feet.



Part A: How many square feet of paint does Cassie use to paint 1 birdhouse? Explain how you solved it.

_____
_____
_____
_____

Part B: If Cassie has painted 6 bird houses, what percent of the gallon of paint has she used? Round to the nearest whole percent.

_____ %

Extended response - 6 points
Standard: 7.EE.4a, 7.EE.2, 7.EE.1
DOK 3

42 A doctor's office plans appointments from 9:00 am – 4:00 pm every 15 minutes per doctor. The office has 3 doctors.

Part A: Write an equation showing the total appointments left, a, given the hours passed in a day, h. Explain each part of the equation in context.

Equation 1: _____

_____
_____
_____

Part B: Write an equivalent equation that represents Part A in a different way. Explain each part of the equivalent equation in context. Then compare it to the first equation.

Equation 2: _____

_____
_____
_____
_____
_____

Answer Key - Multiple Choice

Item number	Correct answer	Domain	Target	DOK	CCSS-MC
1	B	**NS**	**B**	DOK 1	**7.NS.1c**
2	D	**RP**	**A**	DOK 2	**7.RP.1**
3	B, D	**EE**	**C**	DOK 1	**7.EE.1**
4	B	**SP**	**I**	DOK 2	**7.SP.7**
5	C	**RP, EE**	**A, D**	DOK 2	**7.RP.3, 7.EE.4a**
6	A	**RP**	**A**	DOK 2	**7.RP.2b**
7	B, D	**NS**	**B**	DOK 1	**7.NS.2a, 7.NS.2b**
8	B	**NS**	**B**	DOK 2	**7.NS.1a**
9	A	**EE**	**D**	DOK 1	**7.EE.3**
10	B	**G**	**F**	DOK 2	**7.G.4**
11	A	**RP**	**A**	DOK 1	**7.RP.2b**
12	C	**SP**	**H**	DOK 2	**7.SP.3**
13	A	**G**	**E, F**	DOK 2	**7.G.1, 7.G.4**
14	A	**SP**	**I**	DOK 1	**7.SP.5**
15	A	**EE**	**D**	DOK 1	**7.EE.4b**
16	A, B, C	**RP**	**A**	DOK 2	**7.RP.2d, 7.RP.2a, 7.RP.2b**
17	D	**G, RP**	**A, E**	DOK 1	**7.G.1, 7.RP.2b**
18	D	**RP**	**A**	DOK 1	**7.RP.2a**
19	C	**NS**	**B**	DOK 1	**7.NS.3**

Item number	Correct answer	Domain	Target	DOK	CCSS-MC
20	A	**EE**	**D**	DOK 2	**7.EE.4a**
21	B	**RP**	**A**	DOK 1	**7.RP.2d**
22	A	**EE**	**C**	DOK 1	**7.EE.1**
23	B, E	**NS**	**B**	DOK 2	**7.NS.1b, 7.NS.1c**
24	A, D	**EE**	**C, D**	DOK 2	**7.EE.1, 7.EE.3, 7.EE.4**
25	C	**SP**	**I**	DOK 1	**7.SP.8b**
26	B	**RP**	**A**	DOK 2	**7.RP.1**
27	C	**NS**	**B**	DOK 3	**7.NS.1b, 7.NS.1c**
28	A	**EE, RP**	**A, D**	DOK 2	**7.EE.2, 7.RP.3**
29	D	**RP**	**A**	DOK 2	**7.RP.2b**
30	A	**NS**	**B**	DOK 1	**7.NS.2**
31	B	**G**	**F**	DOK 2	**7.G.5**
32	A	**EE, RP**	**A, D**	DOK 2	**7.EE.3, 7.RP.3**
33	D	**RP**	**A**	DOK 2	**7.RP.3**
34	B	**NS**	**B**	DOK 1	**7.NS.2d**
35	C	**SP**	**I**	DOK 1	**7.SP.7**
36	A	**RP**	**A**	DOK 1	**7.RP.2b**
37	A	**NS**	**B**	DOK 2	**7.NS.1d**
38	B	**EE**	**D**	DOK 2	**7.EE.4b**
39	D	**RP**	**A**	DOK 2	**7.RP.2c**
40	C	**EE**	**D**	DOK 2	**7.EE.3**

Item number	Correct answer	Domain	Target	DOK	CCSS-MC
41	Extended Response	**NS, G, RP**	**A, B, F**	DOK 3	**7.NS.3, 7.G.4, 7.G.6, 7.RP.3**
42	Extended Response	**EE**	**C, D**	DOK 3	**7.EE.4a, 7.EE.2, 7.EE.1**

Item	KEY	Rationale
41	6 points	Student correctly calculates the surface area: • Top/bottom: 0.75 x 1 = 0.75 • Left/right side: 1 x 1.5 = 1.5 • Back side: 0.75 x 1.5 = 1.125 • Front side: 0.75 – (0.25² x 3.14) = 0.55375 • Total surface area: 0.75 + 0.75 + 1.5 + 1.5 + 1.125 + 0.55375 = 6.17875 ft² And the percent of paint left: 6.17875 ft² x 6 = 37.0725 37.0725 ÷ 450 = 0.082383.. = 8% Student clearly explains how they found the surface area, including subtracting the area of the circular opening from the front side.
	5 points	Student correctly calculates the surface area: • Top/bottom: 0.75 x 1 = 0.75 • Left/right side: 1 x 1.5 = 1.5 • Back side: 0.75 x 1.5 = 1.125 • Front side: 0.75 – (0.25² x 3.14) = 0.55375 • Total surface area: 0.75 + 0.75 + 1.5 + 1.5 + 1.125 + 0.55375 = 6.17875 ft² And the percent of paint left: 6.17875 ft² x 6 = 37.0725 37.0725 ÷ 450 = 0.082383.. = 8% Student explains how they found the surface area, but some parts of the explanation are incomplete or unclear.
	4 points	Student makes 1 calculation error for the surface area: • Top/bottom: 0.75 x 1 = 0.75 • Left/right side: 1 x 1.5 = 1.5 • Back side: 0.75 x 1.5 = 1.125 • Front side: 0.75 – (0.25² x 3.14) = 0.55375 • Total surface area: 0.75 + 0.75 + 1.5 + 1.5 + 1.125 + 0.55375 = 6.17875 ft² And the percent of paint left: 6.17875 ft² x 6 = 37.0725 37.0725 ÷ 450 = 0.082383.. = 8% Student explains how they found the surface area, but some parts of the explanation are incomplete or unclear.

Item	KEY	Rationale
	3 points	Student makes 2 or 3 calculation errors for the surface area: • Top/bottom: 0.75 x 1 = 0.75 • Left/right side: 1 x 1.5 = 1.5 • Back side: 0.75 x 1.5 = 1.125 • Front side: 0.75 – (0.25² x 3.14) = 0.55375 • Total surface area: 0.75 + 0.75 + 1.5 + 1.5 + 1.125 + 0.55375 = 6.17875 ft² And the percent of paint left: 6.17875 ft² x 6 = 37.0725 37.0725 ÷ 450 = 0.082383.. = 8% Student explains how they found the surface area, but some parts of the explanation are incomplete or unclear.
	2 points	Student makes more than 4 calculation errors for the surface area: • Top/bottom: 0.75 x 1 = 0.75 • Left/right side: 1 x 1.5 = 1.5 • Back side: 0.75 x 1.5 = 1.125 • Front side: 0.75 – (0.25² x 3.14) = 0.55375 • Total surface area: 0.75 + 0.75 + 1.5 + 1.5 + 1.125 + 0.55375 = 6.17875 ft² And the percent of paint left: 6.17875 ft² x 6 = 37.0725 37.0725 ÷ 450 = 0.082383.. = 8% Student attempts to explain how they found the surface area, but some parts of the explanation are incomplete or unclear.
	1 point	Student makes more than 4 calculation errors for the surface area: • Top/bottom: 0.75 x 1 = 0.75 • Left/right side: 1 x 1.5 = 1.5 • Back side: 0.75 x 1.5 = 1.125 • Front side: 0.75 – (0.25² x 3.14) = 0.55375 • Total surface area: 0.75 + 0.75 + 1.5 + 1.5 + 1.125 + 0.55375 = 6.17875 ft² And the percent of paint left: 6.17875 ft² x 6 = 37.0725 37.0725 ÷ 450 = 0.082383.. = 8% Student fails to explain how they found the surface area.

Item	KEY	Rationale
	0 points	Response is blank or does not include any correct calculations or explanations.

Item	KEY	Rationale

42	6 points	Student correctly creates two equations that model the situation and correctly explains and compares each part of the equation in context.
		• $84 - 12h = a$
		  • 84 is the total appointments in the office for 1 day and $12h$ is the number of appointments completed for each hour, h, that has passed
		• $3(28 - 4h) = a$
		  • 28 is the total appointments for each doctor and $4h$ is the number of appointments completed for each hour, h, per doctor. Multiplying by 3 shows that there are 3 doctors.
		• $12(7 - h) = a$
		  • 12 is the total appointments for each hour. 7 is the total hours of appointments in 1 day, therefore 7 – h is the hours passed.
		• $28 \times 3 - 4 \times 3h = a$
		  • 28 is the total appointments for each doctor and multiplying by 3 shows that there are 3 doctors. 4 is the number of appointments completed for each hour per doctor and multiplying by $4h$ shows that there are 3 doctors and h hours passed.
		• $4 \times 7 \times 3 - 4 \times 3h = a$
		  • 4 represents the appointments each hour per doctor. Multiplying by 7 shows that there are 7 hours of appointments each day and multiplying by 3 shows that there are 3 doctors. 4 is the number of appointments completed for each hour per doctor and multiplying by $3h$ shows that there are 3 doctors and h hours passed.
		• $\frac{60}{15} \times 7 \times 3 - \frac{60}{15} \times 3h = a$
		  • $\frac{60}{15}$ represents 60 minutes in 1 hour divided by 15-minute appointments. Multiplying by 7 shows that there are 7 hours of appointments each day and multiplying by 3 shows that there are 3 doctors. $\frac{60}{15} \times 3h$ shows the number of appointments per hour times 4 doctors and the hours passed, h.

	5 points	Student correctly creates two equations that model the situation and explains and compares each part of the equation in context, but some parts may be incomplete or unclear.

Item	KEY	Rationale
	4 points	Student creates two equations that model the situation with 1 error and explains and compares each part of the equation in context, but some parts may be incomplete or unclear.
	3 points	Student creates two equations that model the situation with 2 errors and attempts to explain and compare each part of the equation in context, but the explanation is incomplete or unclear.
	2 points	Student creates two equations with 2 errors OR only creates one equation. Student attempts to explain and compare each part of the equation in context, but the explanation is incomplete, unclear or incorrect.
	1 point	Student creates two equations with more than 2 errors OR only creates one equation. The student attempts to explain and compare each part of the equation in context, but the explanation is incomplete, unclear or incorrect.
	0 points	Response is blank or does not include any correct calculations or explanations.

ANSWERS SORTED BY CCSS STRAND

RP			
2	D	**7.RP.1**	DOK 2
5	C	**7.RP.3, 7.EE.4**	DOK 2
6	A	**7.RP.2b**	DOK 2
11	A	**7.RP.2b**	DOK 1
16	A, B, C	**7.RP.2d, 7.RP.2a, 7.RP.2b**	DOK 2
18	D	**7.RP.2a**	DOK 1
21	B	**7.RP.2d**	DOK 1
26	B	**7.RP.1**	DOK 2
29	D	**7.RP.2b**	DOK 2
33	D	**7.RP.3**	DOK 2
36	A	**7.RP.2b**	DOK 1
39	D	**7.RP.2c**	DOK 2

EE			
3	B, D	**7.EE.1**	DOK 1
9	A	**7.EE.3**	DOK 1
15	A	**7.EE.4b**	DOK 1
20	A	**7.EE.4a**	DOK 2
22	A	**7.EE.1**	DOK 1
24	A, D	**7.EE.1, 7.EE.3, 7.EE.4**	DOK 2
28	A	**7.EE.2, 7.RP.3**	DOK 2
32	A	**7.EE.3, 7.RP.3**	DOK 2
38	B	**7.EE.4b**	DOK 2
40	C	**7.EE.3**	DOK 2
42	Extended Response	**7.EE.4a, 7.EE.2, 7.EE.1**	DOK 3

NS			
1	B	**7.NS.1c**	DOK 2
7	B, D	**7.NS.2a, 7.NS.2b**	DOK 1
8	B	**7.NS.1a**	DOK 2
19	C	**7.NS.3**	DOK 1
23	B, E	**7.NS.1b, 7.NS.1c**	DOK 2
27	C	**7.NS.1b, 7.NS.1c**	DOK 3
30	A	**7.NS.2c**	DOK 1
34	B	**7.NS.2d**	DOK 1
37	A	**7.NS.1d**	DOK 2
41	Extended Response	**7.NS.3 7.G.4, 7.G.6, 7.RP.3**	DOK 3

G			
10	B	**7.G.4**	DOK 2
13	A	**7.G.1, 7.G.4**	DOK 2
17	D	**7.G.1, 7.RP.2b**	DOK 1
31	B	**7.G.5**	DOK 2
41	Extended Response	**7.NS.3 7.G.4, 7.G.6, 7.RP.3**	DOK 3

SP			
4	B	**7.SP.7**	DOK 2
12	C	**7.SP.3**	DOK 2
14	A	**7.SP.5**	DOK 1
25	C	**7.SP.8b**	DOK 1
35	C	**7.SP.7**	DOK 1

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