Evaluating Expressions (A) Answers

Evaluate each expression using the value given.

1. $c - c$
   $(c = 6)$
   $= 0$

2. $6y$
   $(y = 9)$
   $= 54$

3. $c \cdot c$
   $(c = 4)$
   $= 16$

4. $9 \div a$
   $(a = 2)$
   $= \frac{9}{2}$

5. $v \cdot v$
   $(v = 2)$
   $= 4$

6. $a - 2$
   $(a = 7)$
   $= 5$

7. $8z$
   $(z = 6)$
   $= 48$

8. $2v$
   $(v = 7)$
   $= 14$

9. $5u$
   $(u = 4)$
   $= 20$

10. $5b$
    $(b = 3)$
    $= 15$

11. $6 - c$
    $(c = 5)$
    $= 1$

12. $c - c$
    $(c = 7)$
    $= 0$

13. $8 \div u$
    $(u = 2)$
    $= 4$

14. $b + 5$
    $(b = 2)$
    $= 7$

15. $b - b$
    $(b = 2)$
    $= 0$

Name_____

Order of Operations

Date_____ Period____

Evaluate each expression.

1) $3(6+7)$

39

2) $5 \times 3 \times 2$

30

3) $72 \div 9 + 7$

15

4) $2 + 7 \times 5$

37

5) $9 + 8 - 7$

10

6) $9 - 32 \div 4$

1

7) $5(10-1)$

45

8) $48 \div (4+4)$

6

9) $20 \div (4 - (10-8))$

10

10) $40 \div 4 - (5-3)$

8

11) $9 + 9 + 6 - 5$

19

12) $(5+16) \div 7 - 2$

1

13) $7 + 10 \times 5 + 10$

67

14) $(6 + 25 - 7) \div 6$

4

15) $(6-4)\times 49\div 7$

14

16) $(7\times 5)\div 5$

7

17) $\dfrac{43-1}{4+2}+10$

17

18) $(8+5)\times\dfrac{35}{5}+6$

97

19) $\dfrac{27}{2+3+4}+3$

6

20) $\dfrac{45}{8(5-4)-3}$

9

21) $8\times\dfrac{15}{5}-(5+9)$

10

22) $2\times 7-\dfrac{10}{9-4}$

12

23) $(10+2-2)\times 6-1$

59

24) $\dfrac{49}{7}\times\dfrac{60}{2\times 5}$

42

25) $(2+6\times 2+2-4)\times 2$

24

26) $\dfrac{8}{5-1}\times(3+6)\times 3$

54

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Simple Linear Equations (A) Answers

Solve for each variable.

1. $\frac{a}{8} = -4$
   $a = -32$

2. $b - (-5) = 13$
   $b = 8$

3. $3 + \frac{18}{z} = 12$
   $z = 2$

4. $-9 + \frac{36}{a} = -5$
   $a = 9$

5. $u + 2 = -8$
   $u = -10$

6. $2z = 2$
   $z = 1$

7. $-1 - \frac{y}{8} = -7$
   $y = 48$

8. $\frac{8}{u} - (-2) = 6$
   $u = 2$

9. $a - 2 = -10$
   $a = -8$

10. $\frac{u}{6} = 3$
    $u = 18$

11. $10 - \frac{b}{2} = 3$
    $b = 14$

12. $\frac{y}{-7} = -7$
    $y = 49$

13. $\frac{b}{7} = -5$
    $b = -35$

14. $\frac{-2}{c} = 2$
    $c = -1$

15. $\frac{c}{5} + 3 = 8$
    $c = 25$

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Word Problems

1) The sum of three consecutive numbers is 114.
What is the smallest of the three numbers ?

37

2) Mike bought 8 new baseball trading cards to add to his collection. The next day his dog ate half of his collection. There are now only 40 cards left.
How many cards did Mike start with ?

72 cards

3) Fred sold half of his comic books and then bought 7 more. He now has 13. How many did he begin with ?

12 comic books

4) The sum of three consecutive even numbers is 90.
What is the smallest of the three numbers ?

28

5) Nancy spent half of her allowance going to the movies. She washed the family car and earned 6 dollars. What is her weekly allowance if she ended with 14 dollars ?

16 dollars

6) Keith had 110 dollars to spend on 8 books. After buying them he had 14 dollars. How much did each book cost ?

12 dollars

7) Oceanside Bike Rental Shop charges a 18 dollar fixed fee plus 8 dollars an hour for renting a bike. Dan paid 50 dollars to rent a bike. How many hours did he pay to have the bike checked out ?

4 hours

8) On Monday, 284 students went on a trip to the zoo. All 6 buses were filled and 8 students had to travel in cars. How many students were in each bus ?

46 students

9) Sandy bought a soft drink for 4 dollars and 5 candy bars. She spent a total of 24 dollars. How much did each candy bar cost ?

4 dollars

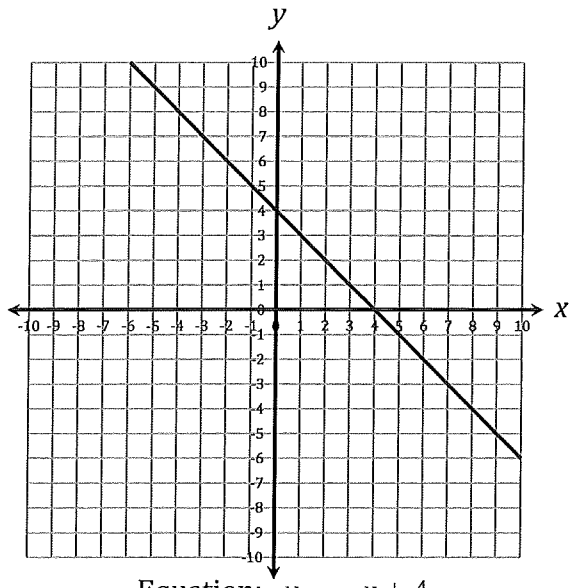
10) The sum of three consecutive odd numbers is 69.
What is the smallest of the three numbers ?

21

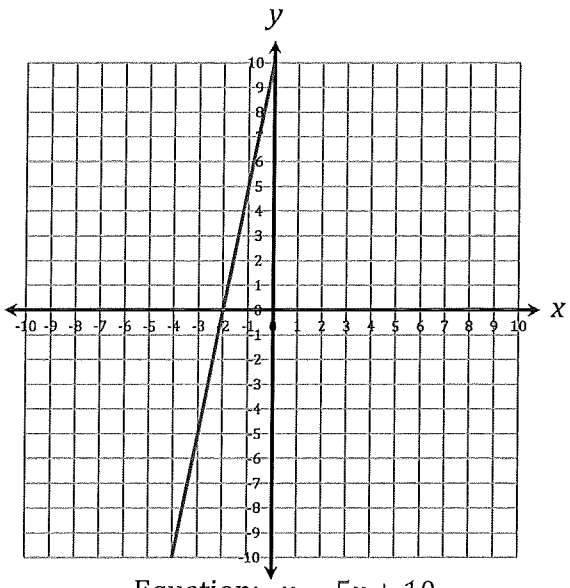
Linear Equation Graphs (A) Answers

Name: _____ Date: _____

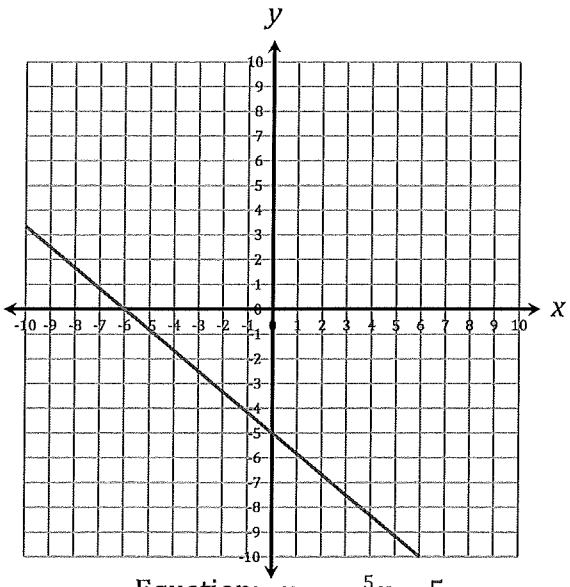
Determine the equation, y-intercept, x-intercept and slope of each line from its graph.



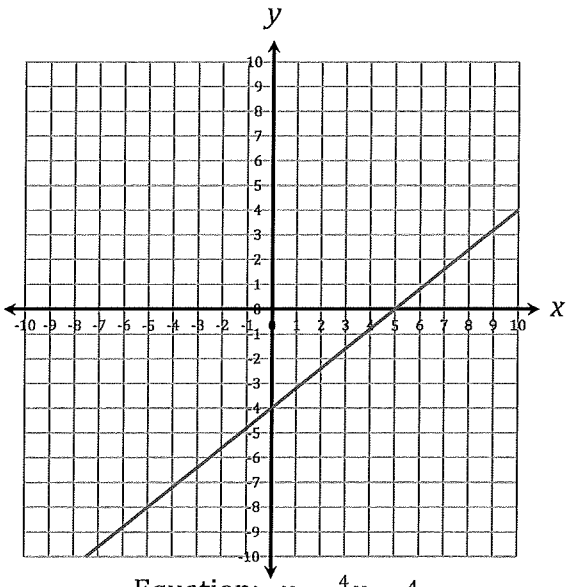
Equation: $y = -x + 4$
y-intercept: 4
x-intercept: 4
Slope: -1



Equation: $y = 5x + 10$
y-intercept: 10
x-intercept: -2
Slope: 5



Equation: $y = -\frac{5}{6}x - 5$
y-intercept: -5
x-intercept: -6
Slope: $-\frac{5}{6}$



Equation: $y = \frac{4}{5}x - 4$
y-intercept: -4
x-intercept: 5
Slope: $\frac{4}{5}$

Number Patterns (A) Answers

Instructions: Write the next three terms in the patterns below.

51, 44, 37, 30, 23, 16, 9

52, 48, 44, 40, 36, 32, 28

7, 9, 11, 13, 15, 17, 19

4, 10, 16, 22, 28, 34, 40

10, 18, 26, 34, 42, 50, 58

72, 66, 60, 54, 48, 42, 36

8, 16, 24, 32, 40, 48, 56

17, 22, 27, 32, 37, 42, 47

68, 64, 60, 56, 52, 48, 44

53, 52, 51, 50, 49, 48, 47

62, 60, 58, 56, 54, 52, 50

60, 53, 46, 39, 32, 25, 18

66, 64, 62, 60, 58, 56, 54

24, 31, 38, 45, 52, 59, 66

73, 72, 71, 70, 69, 68, 67

54, 51, 48, 45, 42, 39, 36

63, 58, 53, 48, 43, 38, 33

12, 20, 28, 36, 44, 52, 60

13, 16, 19, 22, 25, 28, 31

23, 29, 35, 41, 47, 53, 59

58, 51, 44, 37, 30, 23, 16

22, 30, 38, 46, 54, 62, 70

3, 4, 5, 6, 7, 8, 9

70, 69, 68, 67, 66, 65, 64

71, 65, 59, 53, 47, 41, 35

18, 21, 24, 27, 30, 33, 36

21, 26, 31, 36, 41, 46, 51

65, 60, 55, 50, 45, 40, 35

16, 20, 24, 28, 32, 36, 40

69, 67, 65, 63, 61, 59, 57

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Equivalent Ratios

Write two equivalent ratios.

1)

5	10	15
3	6	9

2)

10	20	30
7	14	21

3)

11	22	33
7	14	21

4)

8	16	24
3	6	9

5)

6	12	18
7	14	21

6)

6	12	18
5	10	15

Determine whether the ratios are equivalent.

7) $\frac{5}{8}$ and $\frac{25}{40}$ Yes

8) $\frac{11}{3}$ and $\frac{7}{2}$ No

9) $\frac{11}{4}$ and $\frac{66}{24}$ Yes

10) $\frac{12}{7}$ and $\frac{3}{7}$ No

11) $\frac{4}{11}$ and $\frac{20}{55}$ Yes

12) $\frac{9}{11}$ and $\frac{9}{7}$ No

Use equivalent ratios to find the unknown value.

13) $\frac{5}{4} = \frac{20}{k}$ k = 16

14) $\frac{b}{40} = \frac{11}{8}$ b = 55

15) $\frac{9}{v} = \frac{3}{5}$ v = 15

16) $\frac{9}{10} = \frac{d}{70}$ d = 63

17) $\frac{b}{10} = \frac{9}{5}$ b = 18

18) $\frac{8}{5} = \frac{d}{15}$ d = 24

Equivalent Ratios (A) Answers

Fill in the blanks to make equivalent ratios.

1. $10 : 9 = \underline{30} : 27$
2. $6 : 5 = 30 : \underline{25}$
3. $4 : 7 = \underline{8} : 14$
4. $1 : 3 = \underline{4} : 12$
5. $7 : 2 = \underline{14} : 4$
6. $1 : 2 = \underline{4} : 8$
7. $1 : 9 = 3 : \underline{27}$
8. $5 : 2 = 25 : \underline{10}$
9. $1 : 4 = 4 : \underline{16}$
10. $3 : 7 = 15 : \underline{35}$
11. $11 : 7 = 22 : \underline{14}$
12. $10 : 3 = \underline{20} : 6$
13. $9 : 2 = \underline{18} : 4$
14. $7 : 1 = 21 : \underline{3}$
15. $8 : 3 = 32 : \underline{12}$
16. $5 : 11 = 20 : \underline{44}$
17. $12 : 1 = \underline{48} : 4$
18. $1 : 6 = \underline{5} : 30$
19. $9 : 4 = 36 : \underline{16}$
20. $3 : 5 = \underline{12} : 20$

Are They Equivalent? (A) Answers

Check mark the equations that show equivalent fractions.

$\frac{7}{8} = \frac{91}{88}$ ✗	$\frac{6}{6} = \frac{84}{84}$ ✓	$\frac{4}{10} = \frac{60}{150}$ ✓	$\frac{1}{3} = \frac{7}{21}$ ✓
$\frac{4}{4} = \frac{48}{40}$ ✗	$\frac{2}{8} = \frac{16}{64}$ ✓	$\frac{4}{9} = \frac{48}{72}$ ✗	$\frac{6}{12} = \frac{66}{132}$ ✓
$\frac{1}{4} = \frac{12}{48}$ ✓	$\frac{3}{3} = \frac{45}{45}$ ✓	$\frac{5}{11} = \frac{70}{154}$ ✓	$\frac{9}{9} = \frac{54}{81}$ ✗
$\frac{3}{4} = \frac{21}{28}$ ✓	$\frac{7}{7} = \frac{84}{84}$ ✓	$\frac{2}{3} = \frac{20}{27}$ ✗	$\frac{1}{9} = \frac{7}{126}$ ✗
$\frac{8}{11} = \frac{48}{99}$ ✗	$\frac{1}{3} = \frac{12}{33}$ ✗	$\frac{4}{7} = \frac{44}{35}$ ✗	$\frac{10}{11} = \frac{140}{154}$ ✓
$\frac{6}{11} = \frac{30}{55}$ ✓	$\frac{11}{11} = \frac{77}{143}$ ✗	$\frac{1}{10} = \frac{8}{80}$ ✓	$\frac{4}{12} = \frac{48}{108}$ ✗
$\frac{6}{7} = \frac{90}{70}$ ✗	$\frac{1}{2} = \frac{12}{18}$ ✗	$\frac{2}{10} = \frac{16}{80}$ ✓	$\frac{7}{9} = \frac{105}{135}$ ✓
$\frac{8}{8} = \frac{56}{40}$ ✗	$\frac{7}{8} = \frac{42}{48}$ ✓	$\frac{4}{8} = \frac{56}{120}$ ✗	$\frac{7}{8} = \frac{91}{120}$ ✗
$\frac{3}{3} = \frac{21}{27}$ ✗	$\frac{11}{12} = \frac{165}{120}$ ✗	$\frac{7}{7} = \frac{98}{98}$ ✓	$\frac{4}{10} = \frac{24}{90}$ ✗

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Ratios and Rates

Express each phrase as a rate and unit rate. (Round your answer to the nearest hundredth.)	Rate	Unit Rate
1) 8 dollars for 4 cans of tuna	$\frac{8 \text{ dollars}}{4 \text{ cans}}$	2.00 dollars per can
2) mowed 6 yards for $30.00	$\frac{30 \text{ dollars}}{6 \text{ yards}}$	5.00 dollars per yards
3) 4 inches of snow in 7 hours	$\frac{4\text{" of snow}}{7 \text{ hours}}$	0.57" of snow per hour
4) 14 chocolate bars cost 16 dollars	$\frac{16 \text{ dollars}}{14 \text{ chocolate bars}}$	1.14 dollars per chocolate bar
5) 115 miles on 9 gallons of gas	$\frac{115 \text{ miles}}{9 \text{ gallons}}$	12.78 miles per gallon
6) 7 pencils for 16 dollars	$\frac{16 \text{ dollars}}{7 \text{ pencils}}$	2.29 dollars per pencil
7) 7 movie tickets cost $45.00	$\frac{45 \text{ dollars}}{7 \text{ movie tickets}}$	6.43 dollars per movie ticket
8) 19 dollars for 9 books	$\frac{19 \text{ dollars}}{9 \text{ books}}$	2.11 dollars per book
9) 4 calculators cost $120.00	$\frac{120 \text{ dollars}}{4 \text{ calculators}}$	30.00 dollars per calculator
10) 8 batteries cost 20 dollars	$\frac{20 \text{ dollars}}{8 \text{ batteries}}$	2.50 dollars per battery

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Word Problems

1) A ferris wheel can accommodate 45 people in 30 minutes. How many people could ride the ferris wheel in 4 hours? What was that rate per hour?

360 people
90 people/hour

2) A jet travels 560 miles in 5 hours. At this rate, how far could the jet fly in 13 hours? What is the rate of speed of the jet?

1456 miles
112 mph

3) You can buy 3 apples at the Quick Market for $1.26. You can buy 5 of the same apples at Stop and Save for $1.15. Which place is the better buy?

Stop and Save

4) You can buy 5 cans for green beans at the Village Market for $2.50. You can buy 10 of the same cans of beans at Sam's Club for $6.90. Which place is the better buy?

Village Market

5) An ice cream factory makes 310 quarts of ice cream in 5 hours. How many quarts could be made in 48 hours? What was that rate per day?

2976 quarts
1488 quarts/day

6) Gas mileage is the number of miles you can drive on a a gallon of gasoline. A test of a new car results in 490 miles on 10 gallons of gas. How far could you drive on 60 gallons of gas? What is the car's gas mileage?

2940 miles
49 mpg

7) The bakers at Healthy Bakery can make 170 bagels in 5 hours. How many bagels can they bake in 16 hours? What was that rate per hour?

544 bagels
34 bagels/hour