MATH-A

Algebra I Pt. I Chapter 1 Test

[Exam ID:0FN4FH] Scan Number:9781

1 **If Mark (*m*) is 8 years older than Susan (*s*), which expression represents Mark's age?**

A $8s$
B $s - 8$
C $m - 8$
D $8 + s$

2 **Which phrase best represents the following?**

"Six times the quantity of four plus a number"

F 6(4) + n
G 4n + 6
H 6n + 4
J 6(4 + n)

3 **What is the value of $a^2 - b$ when $a = 5$ and $b = -2$?**

A 1
B 27
C 23
D -1

4 **What is the value of $2x + 2(xy - z)$ when $x = 3$, $y = 4$ and $z = -1$?**

F 26
G 32
H 31
J 19

5 **If milk costs $1.99 per jug, which expression represents the cost of x jugs?**

A $\frac{1.99}{x}$
B $1.99 - x$
C $1.99x$
D $1.99 + x$

6 **What is the value of $\frac{3ab}{2c^2}$ when $a = 3$, $b = 5$, and $c = -2$?**

F $5\frac{5}{8}$

G -90

H $2\frac{13}{18}$

J $-5\frac{5}{8}$

7 **Susan is 3 years more than twice her brother's age. If her brother is m years old, which expression describes Susan's age?**

A $3 - 2m$

B $2m - 3$

C $3m - 3$

D $2m + 3$

8 **Given the expression "6 more than twice a number", what is the value of the expression if the number is equal to 5?**

F 5

G 10

H 16

J 13

9 **What is the value of $a(3 - b)$ if $a = 2$ and $b = 5$?**

A 16

B -4

C 5

D 0

10 **What is the value of the expression $3(x + 4) - 2y$, if $x = 5$ and $y = -3$?**

F 11

G -7

H 21

J 33

11 **What is the value of the expression $4a - 5b$ if $a = \frac{1}{4}$ and $b = \frac{3}{10}$?**

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

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

C $-2\frac{1}{2}$

D $\frac{1}{2}$

12 **Which property justifies rewriting**

$$3x - 5x$$
as
$$(3-5)x\,?$$

F Associative property of multiplication
G Distributive property
H Commutative property of multiplication
J Associative property of addition

13 **What is the value of $\frac{2ab}{2c}$ when $a = 2$, $b = 3$, $c = -2$?**

A -2
B -12
C -3
D 3

14 **What property is illustrated by the equation**

$$3x = x\,3\,?$$

F Commutative property of addition
G Commutative property of multiplication
H Symmetric property of equality
J Associative property of multiplication

15 **Jerri wrote these steps when solving an equation.**

$$17(x+3)=6-4$$
Step 1: $17x+51=6-4$
Step 2: $17x+51=2$
Step 3: $17x=^{-}49$
Step 4: $x=\frac{^{-}49}{17}$

Which property justifies Step 1 ?

A Commutative property for addition
B Additive identity property
C Distributive property
D Associative property for addition

16 **Randy has $25 and is going to buy T-shirts that cost $8 each. Which expression shows how much money he will have left after buying a certain amount of T-shirts?**

F $\$8s + 25$
G $\$8s - \$25$
H $\frac{\$25}{\$8s}$
J $\$25 - \$8s$

17 **Which expression represents four less than half a number, *n* ?**

A $4 - \frac{1}{2}n$
B $\frac{1}{2}n - 4$
C $\frac{1}{2}(4 - n)$
D $\frac{1}{2}(n - 4)$

18 **What is the value of $\frac{6x - 3y}{xy}$ when $x = 6$ and $y = -4$?**

F 3
G 2
H -1
J -2

19 **Which expression represents the phrase "five times a number decreased by four"?**

A $5r - 4$

B $5 - 4r$

C $-4 - 5r$

D $4 - 5r$

20 **Which is an example of the distributive property?**

F $(5 + 10)x = x(5 + 10)$

G $5(x + 2) = 5x + 10$

H $10 + 5x = 5x + 10$

J $5x + 10 = 5x + 10$

21 **Given the expression "twice the sum of a number and three", what is the value of the expression if the number is equal to -5?**

A -7

B 4

C -2

D -4

22 **The number of students trying out for the boy's basketball team is 3 more than 2 times the number of students trying out for the girl's basketball team. If g represents the number of girls trying out for the team, which expression represents the number of students trying out for the boy's basketball team?**

F $3g$

G $2g + 3$

H $3g + 2$

J $3g - 2$

23 **Which expression correctly represents \$10 less than twice the cost, c?**

A $10 - 2c$

B $10 - 2 + c$

C $2c - 10$

D $\frac{c}{2} - 10$

24 **What is the value of**

$$\frac{4x - 5y}{2y}$$

if $x = -6$ and $y = 2$?

F -26.5
G -3.5
H -0.5
J -8.5

25 **Given the expression "three less than a number", what is the value of the expression if the number is equal to a -1?**

A -4
B 4
C 0
D 2

26 **Travis would like to buy some toys to donate to charity. He plans to buy 9 dolls at d dollars each, 2 toy cars at c dollars each, and 3 train sets at t dollars each. Which expression represents the total cost, in dollars, of these items that Travis wants to buy?**

F $9c + 2t + 3d$
G $9d - 2c - 3t$
H $9d + 2c + 3t$
J $9c - 2t - 3d$

27 **What is the value of this expression when $n = -15$?**

$$-2|n + 6|$$

A -42
B -18
C 18
D 42

28 **Using the formula $V = S^3$, what is the side (S) of a cube that has a volume of 125 inches cubed?**

F 41.7 in.
G 15 in.
H 5 in.
J 25 in.

29 **What is the value of the expression $\frac{1}{4}(x^2 - y^3)$ when $x = 5$ and $y = 1$?**

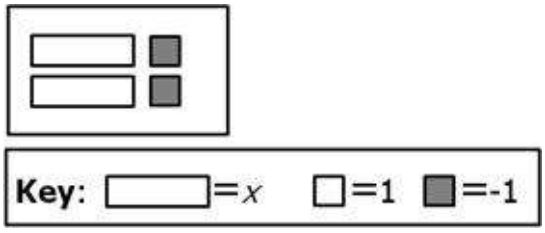
A 31

B $\frac{11}{2}$

C $\frac{7}{4}$

D 6

30 **Look at the model.**



Which expression is represented in the model?

F $6x - 2$

G $2x + 2$

H $x + 1$

J $2x - 2$

31 **Which statement could be represented by the expression $n^2 + 4n$?**

A The square of a number increased by four times the number

B The square of the product of a number and four

C The square of a number increased by four

D The sum of two times a number and four times a number

32 **Jane has twice as much money as Tom. If Tom has m dollars, how much money does Jane have?**

F $\frac{m}{2}$

G $m - 2$

H $2m$

J $m + 2$

33 **What is the value of $3x^2 - y^2$ if $x = -1$ and $y = 3$?**

A -12
B -3
C -6
D 12

34 **Alison has $4 less than twice the amount Ben has. Which expression represents Alison's amount if Ben has m dollars?**

F $2m - 4$
G $\frac{m - 4}{2}$
H $4 - 2m$
J $m - 4$

35 **Given the points {(1, -3), (-4, -2), (-1, 4), (10, 10)}, what is the domain of this relation?**

A {-4, -1, 1, 10}
B {-3, -2, 1, 10}
C {-4, -3, -2, 10}
D {-3, -2, 4, 10}

36 **Which statement could be represented by the expression $10g - 5$?**

F The product of ten times a number and negative five
G The sum of ten times a number and five
H The product of ten and a number less than five
J Five less than the product of ten and a number

37 **What is the value of this expression when $x = \frac{2}{3}$?**

$$x^2 + 3x - 2$$

A $\frac{16}{3}$
B $\frac{40}{9}$
C $\frac{4}{3}$
D $\frac{4}{9}$

38 **If 112 children sign up for a field trip and each vehicle carries x children, which expression could be used to determine the number of vehicles needed for the trip?**

F $\frac{x}{112}$

G $112x$

H $112 - x$

J $\frac{112}{x}$

39 **What is the value of**

$$\frac{mn}{r^2}$$

if $m = 7$, $n = 18$, and $r = 6$?

A 63

B 10.5

C 21

D 3.5

40 **What is the value of $\frac{c^2 + 6}{c^2 - 6}$ when $c = -3$?**

F -5

G 5

H -1

J $\frac{1}{5}$