

Name Key

### 7A Extra Practice

1. Evaluate  $-2x + y^2$  when  $x = -1.2$  and  $y = 0.7$ .

$$-2(-1.2) + (0.7)^2$$
$$2.4 + 0.49 \rightarrow 2.89$$

2. Evaluate  $a^2 - b$  when  $a = 2\frac{1}{2}$ ,  $b = -\frac{4}{5}$ .

$$(2\frac{1}{2})^2 - (-\frac{4}{5})$$

$$\frac{25}{4} - (-\frac{4}{5})$$

$$\frac{14}{20} \text{ or } 7\frac{1}{20}$$

3. What is the greatest common factor of 48 and 72?

24

4. Simplify the following expression:  $-3(2x - 4)$

$$-6x + 12$$

5. Simplify the expression:

$$\frac{24x^4y^7}{6xy^3}$$

$$4x^3y^4$$

6. Translate the following, three times the sum of  $x$  and two.

$$3(x + 2)$$

7. Janine's dog weighs three pounds less than twice the weight of Wanda's dog,  $d$ . Which

write an expression,

$$2d - 3$$

8. Simplify the expression:  $12xy - 15x + 6xy$

$$18xy - 15x$$

9. What is the product of  $(6a^3b^4)$  and  $(3a^2b^3)$ ?

$$(6a^3b^4)(3a^2b^3)$$

$$18a^5b^7$$

10. What is the sum of  $(3 + 3)^2$  and  $2^3$ ?

$$(3 + 3)^2 + 2^3$$

$$36 + 8$$

$$44$$

11. Which of the following is equivalent to  $3^3 \cdot 3^4$ ?

$$3^7$$

12. What is the value of  $3^2 + 4 \cdot 2 - 6 \div 2$ ?

$$9 + 8 - 3$$

$$14$$

13. Evaluate:  $|10 + -35|$

$$|-25|$$

$$25$$

14. Simplify the expression:  $4(x - 2) - 9x$

$$\begin{array}{r} 4x - 8 - 9x \\ \hline -5x - 8 \end{array}$$

15. The low temperature on Sunday was  $-9^{\circ}\text{F}$ . The high temperature on Sunday was  $14^{\circ}$  warmer than the low temperature. What was the high temperature on Sunday?

$$-9 + 14 = 5^{\circ}\text{F}$$

16. The low temperature on Monday was  $6^{\circ}$  warmer than Sunday's low of  $-9^{\circ}\text{F}$ . The low temperature on Tuesday was  $3^{\circ}$  warmer than Monday's low. What was the low temperature on Tuesday?

$$\begin{array}{l} -9 + 6 = -3 \\ -3 + 3 = 0^{\circ}\text{F} \end{array}$$

17. Use the expression to answer the following question:  $5y + 9x - 12 - 3y + x - 4$

a) How many terms are in the expression above? 6

b) State the coefficient of the fifth term. 1

c) Name a constant. -12 or -4

d) State a like term for the fourth term. 5y

e) State a like term for the sixth term. -12

f) Simplify the expression:  $5y + 9x - 12 - 3y + x - 4$

$$2y + 10x - 16$$

18. Which set of data has no mode?

A) 6, 5, 7, 5, 6

B) 5, 6, 7, 8, 9

C) 5, 6, 7, 7, 7

D) 6, 6, 7, 7, 7

19. John has 5 quarters and 3 dimes in his pocket. Expresses the ratio of dimes to quarters?

$$\frac{3}{5}$$

20. Sal's Ice Cream stand offers a sundae special; vanilla, chocolate, or strawberry ice cream in either a cup or a cone with a choice of sprinkles or nuts. How many different sundaes could you order?

$$3 \cdot 2 \cdot 2 = 12$$

21. Which of the following triangles does not exist?

A) scalene, acute

B) isosceles, obtuse

C) equilateral, obtuse

D) obtuse

22. In  $\triangle ABC$ , the  $m\angle A = 50^{\circ}$ , the  $m\angle B = 75^{\circ}$  and the  $m\angle C = 55^{\circ}$ . Classify the triangle by its sides.

scalene

23. John is playing a game with a coin and a number cube. What is the probability of tossing tails on the coin and rolling a 7 on the number cube?

$$\frac{1}{2} \cdot \frac{1}{6} = \frac{1}{12}$$

24. Determine which of the following pairs of ratios form a proportion:

A)  $\frac{6}{12}$  and  $\frac{12}{32}$

B)  $\frac{6}{12}$  and  $\frac{24}{32}$

C)  $\frac{2}{12}$  and  $\frac{6}{32}$

D)  $\frac{6}{12}$  and  $\frac{2}{32}$

25. An 8 ounce bag of candy costs \$9.32. What is the unit price?

$$\frac{\$9.32}{8 \text{ oz}} = \$1.165 \approx \$1.17 \text{ per oz}$$

26. In a right triangle, one acute angle measures 58°. What is the measure of the other acute angle?

$$x + 58 + 90 = 180$$

$$x = 32$$

27. An 8 ounce bag of candy costs \$9.32. What is the unit price?

A bag contains 3 red markers, 5 blue markers, 2 green markers and 1 yellow marker. 11 total

28. What is the probability that Michelle reaches into the bag and selects a blue or green marker?

$$\frac{5}{11} + \frac{2}{11} = \frac{7}{11}$$

↑  
add

29. What is the probability that Michelle reaches into the bag and selects a red marble, replaces it, and then selects a yellow marble?

↑  
independent

$$\frac{3}{11} \cdot \frac{1}{11} = \frac{3}{121}$$

30. What is the probability that Michelle reaches into the bag and selects a blue marble, keeps it, and then selects another blue marble?

↑  
dependent

$$\frac{5}{11} \cdot \frac{4}{10} = \frac{2}{11}$$

31. For the set of data 10, 10, 12, 14, 14, which statement is true?

A) mean = mode

mean 12  
median 12

B) median = mode

C) mean = median

D) mean < median

Stephen conducted an experiment by rolling a die. He recorded his results in the table below. Use the table to answer questions 32 & 33.

Result	1	2	3	4	5	6
Frequency	3	7	4	10	4	2

total 30

32. What is the experimental probability of rolling a 6?

$$\frac{2}{30} = \frac{1}{15}$$

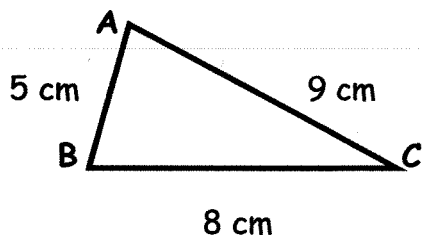
33. Out of the next 120 rolls, how many would you expect to land on 4?

$$\frac{10}{30} = \frac{x}{120} \quad x = 40$$

34. Use the triangle at the right to name the largest angle.

[Diagram not drawn to scale]

$\angle B$



35. These are the prices of six different student lunches bought on the same day. What is the range of these prices?

$\$6.40$ ,  $\$3.15$ ,  $\$2.25$ ,  $\$5.05$ ,  $\$3.75$ ,  $\$2.10$

$$6.40 - 2.10$$

$\$4.30$

36. Which value of  $b$  would make both inequalities true?  $b < 22$  and  $b \geq 11$ .

~~A)  $b = 10$~~

B)  $b = 12$

~~C)  $b = 22$~~

~~D)  $b = 25$~~

37. Which of the following is equivalent to a terminating decimal?

A)  $\frac{1}{6}$

B)  $\frac{2}{6}$

C)  $\frac{3}{6}$

D)  $\frac{4}{6}$

38. Which of the following fractions are equivalent to a repeating decimal?

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

B)  $\frac{1}{3}$

C)  $\frac{1}{4}$

D)  $\frac{1}{5}$

39. Which is a rational number?

A)  $\pi$

B)  $\sqrt{25}$

C)  $\sqrt{13}$

D)  $0.121121112\dots$

40. Which is an irrational number?

A)  $0.333\dots$

B)  $0.\overline{29}$

C)  $\sqrt{100}$

D)  $\sqrt{19}$

41. Which of the following statements about the number Pi is NOT true.

A) Pi is an irrational number

B)  $\text{Pi} = 3.14$

C) The symbol for Pi is  $\pi$

D) Pi is a Real number

42. Which of the following is not a perfect square.

A) 25

B) 49

C) 75

D) 81

43.  $\sqrt{75}$  lies between which two consecutive whole numbers?

8 and 9

44. How many whole numbers are between  $\sqrt{30}$  and  $\sqrt{50}$ .

$$\sqrt{36, 49}$$

$$6 + 7$$

45. Which expression is TRUE?

2

~~A)  $|-8| = -8$~~

~~B)  $\sqrt{121} = \pm 11$~~

C)  $0.35 = \frac{7}{20}$

~~D)  $\frac{7}{100} = 0.7$~~

46. Write an inequality that represents the statement "There are at most 17 flowers in the vase".

$$x \leq 17$$

47. Write an inequality that represents the statement "Diane has at least 84 toy penguins".

$$p \geq 84$$

48. Identify ALL the Integer solutions given the following inequality:  $x \geq -5$

A)  $\{-5, -4, -3, \dots\}$

~~B)  $\{-5, -6, -7, \dots\}$~~

~~C)  $\{-4, -3, -2, \dots\}$~~

~~D)  $\{-6, -7, -8, \dots\}$~~

49. Solve.  $3(x + 4) + 4 = -20$

$$3x + 12 + 4 = -20$$

$$3x + 16 = -20$$

$$\frac{-16}{-16} \quad \frac{-16}{-16}$$

$$3x = -36$$

$$x = -12$$

50. What is  $6.033 \cdot 10^5$  expressed in standard notation?

was

$$603300$$

51. What is 0.0039 expressed in scientific notation?

was

$$3.9 \times 10^{-3}$$

52. Place each of the following in ALL the sets of numbers to which it belongs:

a)  $0.\bar{5}$

Real, rational

b)  $-\sqrt{49} = -7$

Real, integer, rational

c)  $\sqrt{13}$

Real, irrational

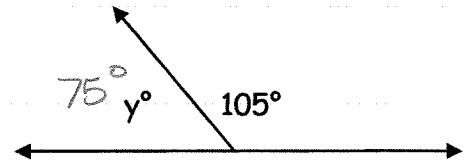
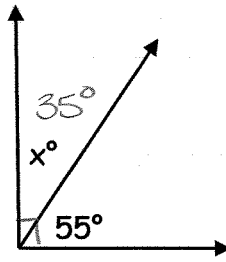
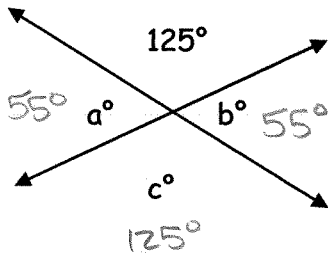
d)  $-4\frac{1}{2}$

Real, rational

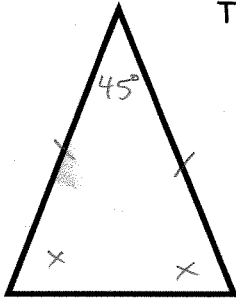
e)  $\sqrt{100} = 10$

Real, counting, whole, integer, rational

53. Find the missing angle(s).

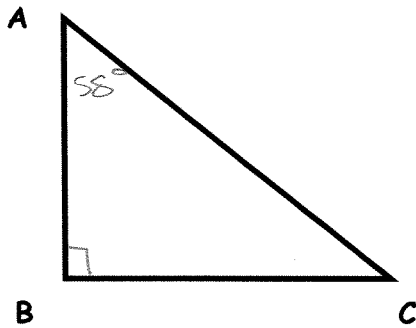


54. The vertex angle is  $45^\circ$ . What is the measure of each base angle?



$$\begin{aligned} x + x + 45 &= 180 \\ 2x + 45 &= 180 \\ -45 &-45 \\ \hline 2x &= 135 \\ \frac{2x}{2} &= \frac{135}{2} \\ x &= 67.5 \end{aligned}$$

55.  $m\angle A = 58^\circ$  What is the measure of angle C?  $32^\circ$



Classify by angles. Right

Classify by sides. Scalene

Identify the longest side. AC

Identify the shortest side. AB

56. The angles of a quadrilateral are  $91^\circ$ ,  $25^\circ$ , and  $126^\circ$ . What is the measure of the fourth angle?

$$\begin{aligned} x + 91 + 25 + 126 &= 360 \\ x + 242 &= 360 \\ -242 &-242 \\ \hline x &= 118 \end{aligned}$$