

End of Course Preparation – Algebra 1 – Chapters 1 – 3

- 1) The area of a rectangle equals length times width, written $A = lw$.

Rewrite to solve for w .

a. $w = lA$	c. $w = Al$
b. $w = \frac{A}{l}$	d. $w = \frac{l}{A}$

- 2) Dorian is saving money to buy a bicycle. Currently he has saved $\frac{2}{3}$ of the money he needs to buy the bicycle. He earns \$14.50 more mowing lawns and now has $\frac{4}{5}$ of the money he needs to buy the bicycle. Determine the cost of the bicycle.

a. \$ 52.50	c. \$ 86.50
b. \$108.75	d. \$ 115.56

- 3) Order the following from greatest to least

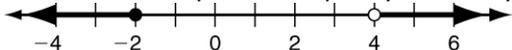
$$\sqrt{6} \quad 2^3 \quad 4\pi \quad -1.23 \quad \frac{2}{3} \quad 2.4 \times 10^{-2}$$

a. -1.23	$\frac{2}{3}$	$\sqrt{6}$	2^3	4π	2.4×10^{-2}
b. 2.4×10^{-2}	$\sqrt{6}$	4π	2^3	-1.23	$\frac{2}{3}$
c. $\sqrt{6}$	2^3	4π	-1.23	$\frac{2}{3}$	2.4×10^{-2}
d. 4π	2^3	$\sqrt{6}$	$\frac{2}{3}$	2.4×10^{-2}	-1.23

- 4) Solve $3x - 7 = 5x + 3$

a. -5	b. -1.25	c. 5	d. 1.25
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- 5) Write the compound inequality shown by the graph.



a. $x \leq -2$ OR $x > 4$	c. $x \geq -2$ OR $4 < x$
b. $x \leq -2$ OR $x \leq 4$	d. $x < -2$ OR $4 < x$

6) The equation $13 - 2|x + 3| = 5$ has two real solutions.
Determine the negative solution of the equation.

- a. 1 b. -5.5 c. -7 d. -1

7) Mike kept track of the number of passengers on his bus, noticing the following:
 – At the first stop, several passengers (p) got on the empty bus.
 – At the second stop, the number of passengers doubled when more people got on.
 – At the third stop, 3 passengers got off the bus and no passengers got on.
 – At the fourth stop, 2 passengers got on the bus and no passengers got off.

Which expression represents the number of passengers on the bus after the fourth stop?

- a. $2p + 5$ b. $2p - 1$ c. $2p - 5$ d. $2p + 1$

8) Order the stars from highest to lowest temperature.

Lowest Temperature (in °F)	Color
1.35×10^4	Blue-White
2.08×10^4	Blue
9.0×10^3	Yellow
4.5×10^4	Blue

- a) 1.35×10^4 2.08×10^4 4.5×10^4 9.0×10^3
 b) 9.0×10^3 4.5×10^4 2.08×10^4 1.35×10^4
 c) 4.5×10^4 2.08×10^4 1.35×10^4 9.0×10^3
 d) 1.35×10^4 4.5×10^4 2.08×10^4 9.0×10^3

9) For what values of a is $\frac{1}{a}$ an integer?

- a. 0 b. all c. 1 d. 10

10) $\sqrt{8}$ equals

- a. $2\sqrt{2}$ b. $8\sqrt{2}$ c. 8 d. $4\sqrt{2}$

11) The graph below shows the solution set of which inequality?



- b. $x^2 < -9$ b. $|x| < 3$ c. $\sqrt{x} < 9$ d. $x < 3$
- 12) The equation $2|x-1|-10 = -4$ has two real solutions. Determine the positive solution of the equation.

- a. 4 b. -4 c. 1 d. -2

13) Check all of the answers that are in the solution set of the inequality: $\frac{x}{2} \leq -5$

- c. 10 b. -9 c. -12 d. -3

14) Solve the equation for x: $\frac{-2}{7}x = \frac{1}{5}$

- a. $\frac{-2}{35}$ b. $\frac{-10}{7}$ c. $-\frac{7}{10}$ d. $\frac{-35}{2}$

15) Which mathematical sentence is a correct translation of the problem, where m represents the variable "amount of pizza Marco ate?"

Jaime ate seven slices of pizza. If Jaime and Marco together ate a total of 18 slices, how many slices did Marco eat?

- a. $7 + m = 18$ c. $\frac{7}{m} = 18$
a. $7m = 18$ d. $m - 7 = 18$

16) Fritz and four of his golfing buddies enjoyed dinner at their favorite cafe. They split the bill evenly among them, and each person paid \$12.50. How much was the total bill?

- a. \$32.00 b. \$16.50 c. \$50.00 d. \$48.50

17) Evaluate $y \div z$ for $y = 12$ and $z = 2$

- a. 6 b. 14 c. 10 d. 0

18) Which inequality represents the situation “no less than 16 people must register”?

- a. $p > 16$ b. $p < 16$ c. $p \geq 16$ d. $p \leq 16$

19) A plumber charges \$50 for every hour that he works plus a service fee of \$75. Which rule represents the plumber’s total charges?

- a. $y = 50x + 75$ b. $y = (50 + 75)x$ c. $y = 75x + 50$ d. $y = x + 50 - 75$

20) Simplify $3(p - 2) + 2P$

- a. $-p$ b. $5p - 6$ c. 3 d. $3p - 4$

21) Solve $-3y = -12$

- a. 15 b. -9 c. 4 d. 36

22) Write the expression in simplest radical form. $\sqrt{\frac{18}{25}}$

- a. 45 b. $\frac{6}{5}$ c. $\frac{9}{5}$ d. $\frac{3\sqrt{2}}{5}$

23) Yoga Fun charges a \$63 starting fee plus \$12 per class. Yoga For All charges no starting fee and \$15 per class. For how many classes will the cost be the same at both places?

- a. 3 b. 27 c. 12 d. 21

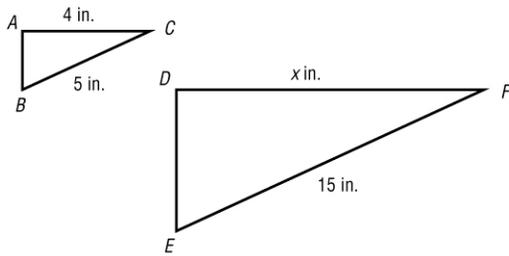
24) Solve $\frac{d}{3} - 9 = -12$.

- a. -9 b. 10 c. -3 d. 15

25) The ratio of boys to girls in Art class is 1:2. There are 12 girls in the class. How many boys are there?

- a. 16 b. 24 c. 8 d. 6

26) $\triangle ABC \sim \triangle DEF$. Find x .



- a. $\frac{4}{3}$ b. 8 c. 7 d. 12

27) Solve $A = \frac{1}{2}bh$ for h

- a. $h = \frac{A}{2b}$ b. $h = \frac{b}{2A}$ c. $h = \frac{2A}{b}$ d. $h = A - \frac{1}{2}b$

28) Kris is 1.5 meters tall and casts a shadow 4 meters long. At the same time, a statue casts a shadow 12 meters long. What is the height of the statue?

- a. 4.5 m b. 24 m c. 10.6 m d. 32.2 m

29) Simplify: $\sqrt{16c^2}$

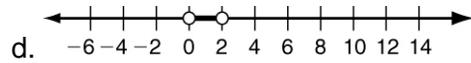
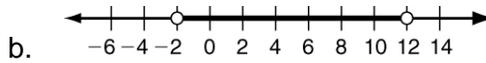
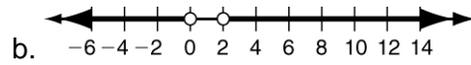
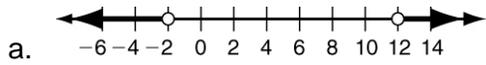
a. $16\sqrt{c^2}$

b. $4c$

c. $4c^2$

d. $16c$

30) Which graph represents the solutions of $p + 1 < -1$ OR $p - 5 > 7$?



31) Which of the following is a repeating decimal?

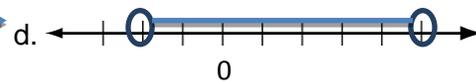
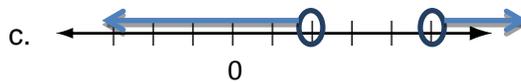
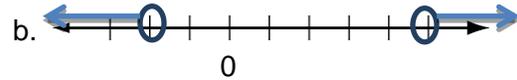
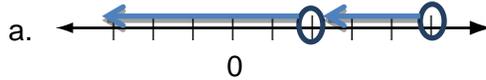
a. $\frac{1}{5}$

b. $\sqrt{3}$

c. $\frac{1}{3}$

d. π

32) Which graph represents $a - 6 < -4$ OR $a - 1 > 4$?



1. A1.2.B	B	9. A1.2.B	C	17. A1.2.B	A	25. A1.4.A	D
2. A1.1.B	B	10. A1.2.C	A	18. A1.1.B	C	26. A1.4.A	D
3. A1.2.A	D	11. A1.3.B	B	19. A1.3.B	A	27. A1.7.D	C
4. A1.4.A	A	12. A1.4.A	A	20. A1.2.E	B	28. A1.1.B	A
5. A1.3.B	A	13. A1.4.A	C	21. A1.4.A	C	29. A1.2.C	B
6. A1.4.A	C	14. A1.1.B	C	22. A1.2.C	D	30. A1.1.B	A
7. A1.1.B	B	15. A1.3.B	A	23. A1.1.B	D	31. A1.2.A	C
8. A1.2.A	C	16. A1.1.B	C	24. A1.4.A	A	32. A1.3.B	C

A1.1.B @ 8/32 ~ 25%

A1.2.A @ 3/32 ~ 10%

A1.2.B @ 3/32 ~ 9%

A1.2.C @ 3/32 ~ 9%

A1.3.B @ 5/32 ~ 16%

A1.4.A @ 8/32 ~ 25%

Other @ 2/32 ~ 6%

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