Pre-College Math Unit 1 Practice Test | **Name:**

1) Find the value of the expression: $50 - 30 \div 5 \cdot 6$

For #2 – 3, simplify and write in lowest terms.

2) $\frac{12}{7} \cdot \frac{2}{15}$

3) $\frac{5}{6} \div 30$

4) Find the value: $\left(\frac{2}{3}\right)^4$

5) Simplify the fraction by writing in lowest terms: $\frac{27}{108}$

6) Graph each of the numbers on the provided number line: $\{-2\frac{7}{8}, -1, \frac{1}{3}, 2\frac{1}{2}, -4, 3\}$

7) Write an expression and simplify: The difference of -12 and -5, increased by 24.

8) The table shows the number of pupils per teacher in US public schools in selected states.

State	Pupils per Teacher
Alaska	11.7
Texas	14.7
California	22.5
Wyoming	14.5

a) Which states had a figure less than 14.7?

b) Which states had a figure that was at most 12?

c) Which states had a figure not less than 14.5?

9) Find the value the expression if $x = 4$ and $y = 3$:

$5(2x - y)$

10) For the given set of values, identify which of the values are each type of number. $\{-9, -5.4, -1, -0.\overline{43}, 0, \frac{1}{9}, 1.2, 2, \sqrt{31}, 15\}$

a) natural numbers:

b) whole numbers:

c) integers:

d) rational numbers:

e) irrational numbers:

f) real numbers:

11) Tricia needs $2\frac{1}{4}$ yards of fabric to cover a chair. How many yards of fabric would she need to cover 6 chairs?

12) Find the value of the expression: $\frac{2(6^2+4)+8}{19-2^3}$

13) Simplify: $2w\left(\frac{1}{2w}\right)+\frac{1}{4}(4)$

14) The table shows the high and low temperatures in °F for a city over a 5-day period.

a) Which day shows the greatest decrease between the high and low temperature?

b) Which day shows the lowest low temperature for the 5-day period?

Day	High Temperature °F	Low Temperature °F
Monday	15	-2
Tuesday	13	-4
Wednesday	17	-5
Thursday	11	-3
Friday	10	-1

For #15 – 20: Find the sum or difference.

15) $-3-(-14)$

16) Add: $1.5-3\frac{1}{4}$

17) $-7.4+[5.8+(-9.4)]$

18) $-1\frac{2}{5}-\frac{3}{4}$

19) $14.7-(-31.6)$

20) $3-[(-9-1)-(4-2)]$

21) Decide whether or not $\frac{6}{11}$ is a solution of the equation: $4x + 7x + 14 = 20$. Show all work!

For #22 – 27: Simplify each expression.

22) $3 - 2(5 - 6a)$

23) $11 - (2x + 3)$

24) $4(x - 1) - 2(3x - 5) - 6(1 - 2x)$

25) $-4y + 12 - y + 30 - 6y$

26) $4(2x - 7) - 3(2x - 1)$

27) $-\frac{2}{9}(27b - 36a)$

For #28 – 32, match each statement to the property shown.

28) $\frac{5}{8}(1) = \frac{5}{8}$

29) $6 \cdot (-4 \cdot 2) = (-4 \cdot 2) \cdot 6$

30 $(4 + 12) + -8 = -8 + (4 + 12)$

31) $-3.9 + 3.9 = 0$

32) $-7(2x + 3) = -14x - 21$

A) Commutative
B) Associative
C) Inverse
D) Identity
E) Distributive

33) True or False? $-|4| < -|-11|$

For #34 – 38, find the product or quotient.

34) $-12(11)$

35) $-\frac{6}{5} \cdot \left(-\frac{15}{9}\right)$

36) $\frac{6}{11} \div \left(-\frac{17}{33}\right)$

37) $\frac{15.5}{0.5}$

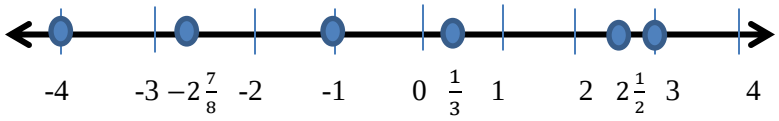
38) $\frac{6^2 - 4^2}{2(-10+5)}$

Answers:

1) 14 2) $\frac{8}{35}$ 3) $\frac{1}{36}$

4) $\frac{16}{81}$ 5) $\frac{1}{4}$

6)



7) $-12-(-5)+24;17$ 8a) Alaska, Wyoming 8b) Alaska

8c) Texas, California, Wyoming

9) 25 10a) 2, 15 10b) 0, 2, 15 10c) -9, -1, 0, 2, 15

10d) $-9,-5.4,-1,-0.\overline{43},0,\frac{1}{9},1.2,2,15$ 10e) $\sqrt{31}$ 10f) all of them

11) $\frac{27}{2}$ yards 12) 8 13) 2

14a) Wednesday 14b) Wednesday 15) 11 16) $-\frac{7}{4}$ 17) -11

18) $-\frac{43}{20}$ 19) 46.3 20) 15 21) Yes (work must be shown)

22) $-7+12a$ 23) $-2x+8$ 24) $10x$ 25) $-11y+42$ 26) $2x-25$

27) $-6b+8a$ 28) D 29) A 30) A 31) C

32) E 33) False 34) -132 35) 2 36) $-\frac{18}{17}$

37) 31 38) -2