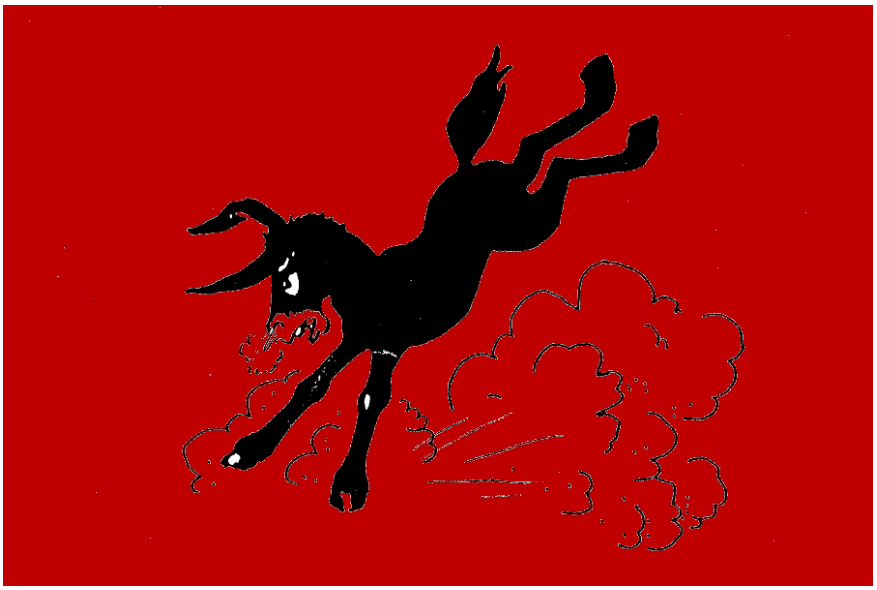
Pre-EOC Assessment

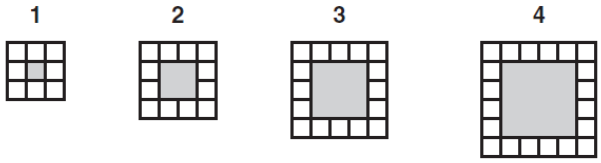
Algebra1 #1

Wahkiakum School District



A1.1.A (#1 from OSPI sample test) **Text Section 1-1**

1. Mrs. Morris gave her students this pattern of white tiles:



She asked her students to write an equation to represent the number of white tiles, *t*, for any figure number, *n*.

Which equation represents the number of white tiles in the pattern?

A $t = n + 2$
B $t = n + 4$
C $t = 4n + 4$
D $t = 4n + 8$

A1.4.A (#4 from OSPI sample test) **Text Section 2-6**

2. The equation $2|x-1|-10=-4$ has two real solutions.

Determine the negative solution of the equation.

Write your answer on the line.

What is the negative solution of the equation? _____-2_____

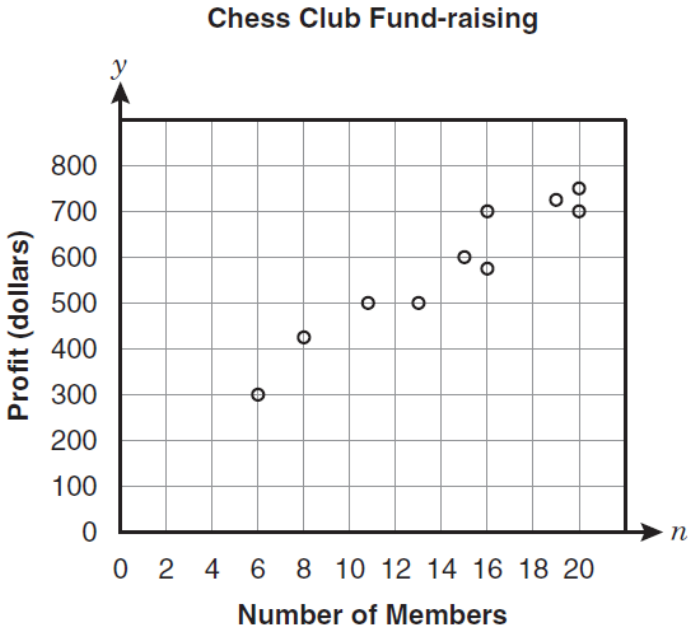
A1.2.C (#24 from EOC test) **Text Sections 7-3 thru 7-5**

3. Simplify $\left(x^{\frac{1}{4}}\right)^8 \sqrt[3]{x^3}$. All variables represent nonnegative numbers.

F x^3
G x^4
H $x^2(x)$
J x^6

A1.6.D (#6 from OSPI sample test) **Text Section 4-5**

4. Vance graphed the relation between fund-raising profits for the chess club and the number of members.



Which equation represents a line that fits the data?

A $y = 29n+320$
B $y = 60n+180$
C $y = 23n+180$
D $y = 2003n+320$

A1.6.C (#16 from OSPI sample test) **Text Section 10-3**

5. At a particular company, every employee receives a 4% cost-of-living increase to their salary.

What impact does this cost-of-living increase have on the mean and on the range of employee salaries at the company?

A The mean increases but the range does not change.
B The mean does not change but the range increases.
C The mean and range both increase.
D The mean and range do not change.

A1.4.B (#1 from EOC test) **Text Section 1-1**

6. Which situation is best modeled by the expression $2 + x$?

A Tabitha lost 2 out of her x marbles under the couch.

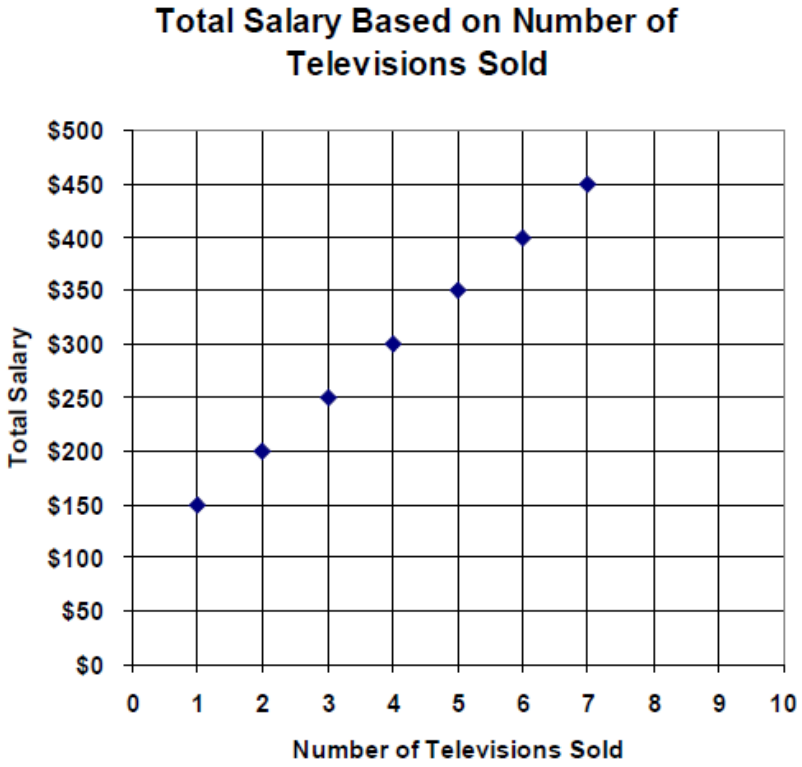
B Sudhir had $2 and spent x dollars on a hamburger.

C Fatima is 2 years older than her sister Delilah who is x years old.

D Dominic ran the x mile course 2 times.

A1.3.B (#20 from OSPI sample test) **Text Section 4-5**

7. The chart shows the amount of total salary (commission plus base salary) paid to employees of a store that specializes in big screen televisions.



Which equation best represents the total salary (T) that an employee makes for selling any number of television sets (n)?

A $T = 50n + 100$

B $T = 100(n + 50)$

C $T = 100n + 50$

D $T = 50(n + 100)$

A1.1.B (#5 from EOC test) **Text Section 2-1**

8. The time it takes Jarvis to get to school on his bike is $\frac{1}{3}$ of the time it takes to walk. Which equation can be solved to find the time it takes Jarvis to walk to school if he can bike there in 5 minutes?

A $3w = 5$

B $w = \frac{1}{3}g5$

C $\frac{1}{3}w = 5$

D $w - \frac{1}{3} = 5$

A1.1B (#9 from EOC test) **Text Section 3-4**

9. Which is **NOT** a solution to the inequality $4x - 7 < 5$?

A -2

B 0

C 1

D 3

A1.3.C (#13 from EOC test) **Text Section 4-4**

10. Which function has (0, 7) on its graph?

A $-3x + y = 7$

B $y = x - 7$

C $y = 14 - x$

D $-7x + y = 2$

A1.7D (#13 from CH2 test form B) **Text Section 2-5**

11. Solve $xy + 7 = n$ for y.

A $y = xn - 7$

B $y = \frac{n-7}{x}$

C $y = x(n - 7)$

D $y = \frac{1}{x}(n + 7)$

A1.2.B (#11 from EOC test) **Text Section 3-7**

12. Which represents the solutions of

$|2x| - 5 < -1$?

A $x > 2$ OR $x < -2$

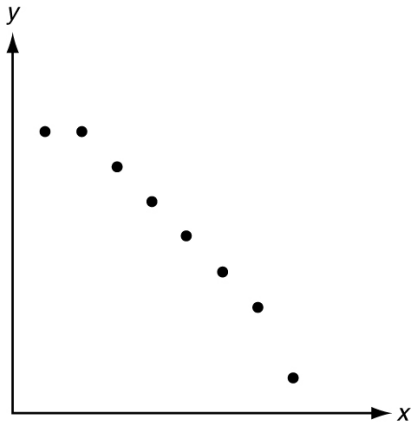
B $x > 2$ OR $x > -2$

C $x > -2$ AND $x < 2$

D $x < -2$ AND $x > 2$

A1.6.E (#14 from EOC test) **Text Section 4-1**

13. Which situation best fits the graph below and what type of correlation is it?



A distance traveled vs. cost of gas; negative correlation

B distance traveled vs. cost of gas; positive correlation

C time traveled vs. distance from destination; negative correlation

D time traveled vs. distance from destination; positive correlation

A1.4.B (#15 from EOC test) **Text Section 5-2**

14. A function has x-intercept 3 and y-intercept 2. Which of the functions below could be this function?

A $4 + 3x = 2y$

B $2x - 3y = -6$

C $2y + 3x = 4$

D $3y - 6 = -2x$

A1.4B (#17 from EOC test) **Text Section 5-9**

15. Which equation describes a line that passes through (7, 1) and is perpendicular to the line described by

$y = -\frac{1}{2}x + 3$?

A $y = 2x - 13$ C $y = 2x - 6$
B $y = 2x - 7$ D $y = 2x + 3$

A1.1.C (#20 from EOC test) **Text Section 6-4**

16. Classify the system $\begin{cases} y = 2x + 3 \\ y = -2x + 3 \end{cases}$.

A inconsistent
B consistent and independent
C inconsistent and dependent
D consistent and dependent

A1.2.C (#23 from EOC test) **Text Sections 7-3 thru 7-5**

17. Which of the following is **NOT** equivalent to $\left(\frac{x^2y}{4x^5}\right)^{-2}$?

A $\left(\frac{y}{4x^3}\right)^{-2}$ C $\left(\frac{16x^5}{y^2}\right)$
B $\left(\frac{4x^3}{y}\right)^2$ D $\left(\frac{4x^5}{x^2y}\right)^2$

A1.4C (#26) **Text Section 5-4**

18 . The equation 2y + 3x = -6 describes a line with what slope?

A 3/2 B 0 C 1/2 D -3/2

A1.4.D (#21 from EOC test) **Text Section 6-6**

19. Which point is a solution of $\begin{cases} y - 3x \geq 2 \\ y \leq x + 9 \end{cases}$?

A (–2, 8) C (4, –1)
B (–1, 4) D (8, –2)

A1.4C (#10 from CH5 test form C) **Text Section 5-4**

20. Which equation describes the line with a slope of 5 and containing the point (–2, 4)?

A $y = 5x - 22$ C $y = 5x + 4$
B $y = 5x - 2$ D $y = 5x + 14$

A1.1E & A1.7B (#4 from CH11 test form A) **Text Section 11-2**

21. The function $f(x) = 10(2)^x$ models an insect population after x weeks. To the nearest whole number, what will the population be after 4 weeks?

A 80 C 20,000
B 160 D 160,000

A1.6B (#54) **Text Section 10-3**

22. Which value is **Not** represented on a box-and-whisker plot?

A. Mean B. Median C. Quartile D. Range

A1.3A (#6 from CH4 test form B) **Text Section 4-2**

23. Which of the following relations is NOT a function?

F {(–3, –3), (–2, –2), (–1, –1)}
G {(–4, 2), (–6, 2), (–8, 2)}
H {(5, –1), (5, –2), (5, –3)}
J {(–3, 1), (0, 0), (3, 1)}

A1.4E (#10 from CH5 test form B) **Text Section 5-6**

24. Which equation is NOT a direct variation?

A $y = 50x$ C $-2y = x$

B $5x + 2y = 10$ D $-3x + 2y = 0$

A1.7A (#14 from OSPI sample test) **Text Section 5-1**

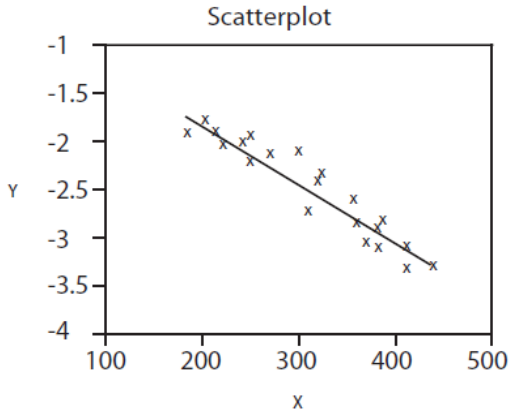
25. Graph A is the graph of y = 2(3) and graph B is the graph of y = 3(2)

Which statement about the two graphs is true?

A. Both graphs A and B rise at the same rate.
B. Graph B rises at a faster rate than graph A.
C. Graph A rises at a faster rate than graph B.
D. The y-intercept of graph A is above the y-intercept of graph B.

A1.6E (Sample Problem from Standards) **Text Section 4-5**

26. Which words – *strong* or *weak*, *positive* or *negative* – could be used to describe the correlation shown in the sample scatterplot below?



A1.7C (#44) **Text Section 11-1**

27. Which of the following is a geometric sequence?

A. 1/2, 1, 3/2, 2, … C. 3, 8, 13, 18,…
B. -2, -6, -10, -14,… D. 5, 10, 20, 40

A1.2A (Sample Problem from Standards) Text Section 7-2

28. A star's color gives an indication of its temperature and age. The chart shows four types of stars and the lowest temperature of each type.

Type	Lowest Temperature (deg F)	Color
A	1.35×10^4	Blue-White
B	2.08×10^4	Blue
G	9.0×10^4	Yellow
P	4.5×10^4	Blue

List the temperatures in order from lowest to highest.

1.35×10^4, 2.08×10^4, 4.5×10^4, 9.0×10^4

A1.6A (Sample Problem from Standards) Text Section 10-3

29. The local minor league baseball team has a salary dispute. Players claim they are being underpaid, but managers disagree.

- Bearing in mind that a few top players earn salaries that are quite high, would it be in the managers' best interest to use the mean or median when quoting the "average" salary of the team? Why?

  The manager should use the median because the mean is significantly affected by the few top players who earn quite high salaries. If the manager used the mean, he/she would be paying all of the players higher salaries. The median would show the middle of the data which splits the salaries such that half would be above the middle salary and half would be below the middle salary.

- What would be in the players' best interest?

  The players would like the manager to use the mean which shows an average of higher salaries thus giving them each a higher salary.

A1.1C (#12 from OSPI sample test) **Text Section 2-3**

30. Only chocolate and vanilla ice cream cones are sold at an ice cream store. In one day, the number of chocolate cones sold was 1 more than 4 times the number of vanilla cones sold. A total of 121 cones were sold that day.

Let c = the number of chocolate cones sold.
Let v = the number of vanilla cones sold.

- Write equations to determine the number of chocolate cones sold that day.
- Use the equations to determine the number of chocolate cones sold that day.

Show your work using words, numbers, and/or diagrams.

Chocolate cones = 4V +1
Vanilla cones = V
Total cones sold = 121

Vanilla Cones + Chocolate Cones = Total Cones Sold
V + 4V + 1 = 121
5V + 1 = 121
5V = 120
V = 24 so there were 24 vanilla cones sold

Chocolate cones = 4V + 1
= 4(24) + 1
= 96 + 1
= 97 chocolate cones sold

✓ Check: 24 + 97 = 121