Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_\_\_\_



**Activity Sheet AL3–1K** **Review 11**

1. 6(x2 – 3) = 4(x2 + 20) x= \_\_\_\_\_\_\_\_\_ **2.** 5(2x2 + 2y – 3) – 3(–3x2 – 3y)+15 =\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Round to 1/100) (Combine Like Terms)



3. 2x2 – 3x – 9 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **4.** 99 x6 36½ x3 y−7  = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

x – 3 245x−6 180y9 ( in simplified exponent notation)

5. 7.21 X 10155 **+** 3.22 X 10154 =\_\_\_\_\_\_\_\_\_\_\_\_\_ **6.** 6√50 – 2√338 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

( in scientific notation) ( in simplified radical notation)

7. Given: 6x2  – 54 :Find x \_\_\_\_\_\_\_\_\_\_ When f(x) = 0 **8.** Factor: 9x2 – 1 =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Is – 3 ± √105 the solutions to y = –2x2 – 3x + 12 ? **Yes / No**

4

What altitude (in feet) would you be in a hot air balloon after two hours if you started with at an altitude of 96,000 feetand if it lowered at a rate of 5.32% per minute?

10. Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **11.** Amount: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Round to nearest foot)



12. Graph the solution to the following system of inequalities on the number line below:

5x – 5 ≤ 10 and – 4x + 3 < 31 ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜ ⎜

13. 10x + 6 = 20 x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **14.** Graph: 12x + 8 < –22 +2 x

3 4x + 1 (round to 1/100) (for #14) 6

15. Find zero(s): 6x2  + 3x – 9 = 0 zero(s)=\_\_\_\_\_\_\_\_\_\_\_\_\_

16. f(x)= 0 & zero(s) of the line through the points 6=f(9) and (2, – 6). (x)= \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

(round to 1/100) zero(s) (bonus)

Based on table (a.), write the equation and find shipping cost of 236.3 pounds .

(a.) **17.** Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Given: 19.** Function:?

Lbs. (x) Shipping Costs(y)

2.00 1.44

5.00 8.1

10.00 19.2

11.50 22.53

15.50 31.41

(Slope-Intercept form) –4 –21 **Yes / No**

–2 –85 **20.** Equation:

4 –33 (standard form)

**18.** Cost: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 –8

(Round to nearest cent) –1 –65 \_\_\_\_\_\_\_\_\_\_\_\_

**21.** Graph: y – 4 = 2(x+1) **22.** Solve the system of equations; **23.** Find the equation of :

x – 2y = 4 **y = 4(x – 3)** + **44** –7.8, – 4.6, –1.4, 1.8, 5, …

**3x – 15 = – 9y**

Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_ (standard form)



24. Determine Function, and Domain & Range: Equation through point (2, 5)

○ Function? **Yes / No** ⏐⏐ and ⊥ to x-axis.

Domain:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **25.** ⏐⏐ Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Inequality Notation) (bonus) (slope-intercept form)

Range:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **26.** ⊥ Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Inequality Notation) (bonus) (standard form)

‘a’

Write the equations of line ‘a’ and ‘b’

‘b’ **27.** Line ‘a’ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **29.** Write in vertex form: y= 3x2 – 24x + 2

(standard form)

**28.** Line ‘b’ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(slope intecept form) (y= A(x-h)2 + k)

**30.** **True or False:** A correlation coefficient of +1.0 means the causation requirement has been met.

Given: f(x) = (x) 2 → (⅔x) 2  **31.** Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**32.** Effect: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(type of transformation) (left/right/up/etc… & amount)

How much air would be in a balloon after18 hours if you started with the volume of the balloon of 860 m3  and if it was inflated at a rate of 6.4% per hour?

33. Equation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **34.** Amount: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Round to 1/100 )

**Given:** Transformation: **(x,y) → (x + 4, y + 7)** Given: point A (4,7):

35. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **36.** Effect: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(type of transformation) (left/right/up/down, #of spaces, across x/y axis, etc.)

37. Functional Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 38. Location of A’ \_\_\_\_\_\_\_\_\_\_\_\_

(order pair)

Given: **f(x) = (x) → g(x) = (– x):**

39. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Effect: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(type of transformation) (left/right/up/down, #of spaces, across x/y axis, etc.) (bonus)

40. Algebraic Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Ordered Pair form )

41. Rewrite the following equation into the form listed:

Given parabola: (– 3,9); through point: (1 , – 7) y = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Vertex) In ( Ax2 + Bx + C ) format

Graph: **42.** Equation for Graph: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10**

**43.** Initial Start Value: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-10 10 Rate of Growth/Decay: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

. (bonus)

**44.** Equation of line of asymptote: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**-10** (slope intercept form)

(2, –30)

**45.** Range of equation that created Graph: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(3, –126) (Inequality Notation)

(4, –510)