

Date: 11.28.18

Final Review

11. (a) $y' = -4x + 2$

(b) $y = x^{\sqrt{\quad}}$

[exponent of y is odd
then it's a function]

(c) $x = y^{\sqrt{\quad}}$ (not a function)

(d) $y = x^3$

12. (a) $f(x) = -4x + 2$

$$f(3) = -4(3) + 2 = -12 + 2 = -10$$

$$(3, -10)$$

(b) $g(x) = x^{\sqrt{\quad}} + 3x$

$$g(3) = 3^{\sqrt{\quad}} + 3 \cdot 3$$

$$= 9 + 9$$

$$= 18$$

$$(3, 18)$$

$$\textcircled{d} \quad \cancel{y = x^3} \quad k(x) = \sqrt{x+1}$$

$$k(3) = \sqrt{3+1} = \sqrt{4} = 2$$

$$\textcircled{e} \quad f(x) = -4x + 2$$

$$f(-2) = -4(-2) + 2$$

$$= 8 + 2$$

$$= 10$$

$$(-2, 10)$$

$$\textcircled{f} \quad g(x) = x^2 + 3x$$

$$g(-4) = (-4)^2 + 3(-4)$$

$$= 16 - 12$$

$$= 4$$

$$(-4, 4)$$

$$\textcircled{h} \quad k(x) = \sqrt{x+1}$$

$$k(-1) = \sqrt{-1+1} = 0$$

i

$$f(x) = -4x + 2$$

$$f(x-3) = -4(x-3) + 2$$

$$= -4x + 12 + 2$$

$$= -4x + 14$$

j

$$f(x) = -4x + 2$$

$$f(x+2) = -4(x+2) + 2$$

$$= -4x - 8 + 2$$

$$= -4x - 6$$

k

~~$$k(x) = \sqrt{x+1}$$~~
$$f(x) = -4x + 2$$

~~*~~
$$f(x+2) = -4(x+2) + 2$$

$$= -4x - 8 + 2$$

$$= -4x - 6$$

$$13. \textcircled{a} \quad 211 - 5^2(17-14)$$

$$= 211 - 25(\cancel{17}3)$$

$$\geq 211 - 75$$

$$= 136$$

$$13. \textcircled{b} \quad 12\sqrt{121} - 8(14-6)$$

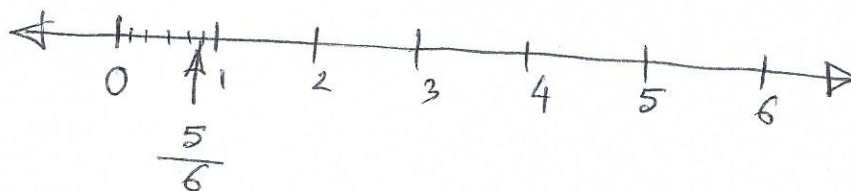
$$= 12\sqrt{121} - 8(8)$$

$$= 12 \cdot 11 - 64$$

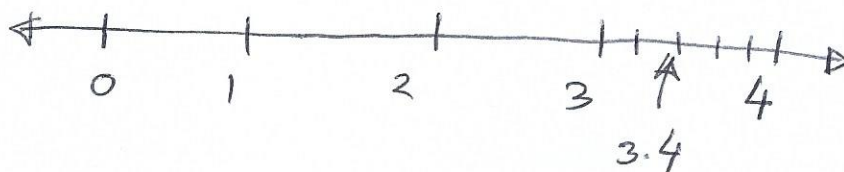
$$= 132 - 64$$

$$= 68$$

$$14. \textcircled{b}$$



$$14. \textcircled{a}$$



$$15. \text{ (a) } \frac{226}{7} = 32 \frac{2}{7}$$

$$16. \text{ (a) } 21 \cdot \frac{3}{7}$$

$$= \frac{3 \cdot \cancel{7}}{1} \cdot \frac{3}{\cancel{7}}$$

$$= 9$$

$$16. \text{ (b) } \frac{24}{35} \cdot \frac{75}{36}$$

$$= \frac{\cancel{2} \cdot \cancel{2} \cdot \cancel{2} \cdot \cancel{3}}{\cancel{5} \cdot 7} \cdot \frac{5 \cdot \cancel{5} \cdot \cancel{3}}{\cancel{2} \cdot \cancel{2} \cdot \cancel{3} \cdot \cancel{3}}$$

$$= \frac{10}{7}$$

$$17. \text{ (a) } \frac{10}{12} \div \frac{7}{30}$$

$$= \frac{\cancel{2} \cdot 5}{\cancel{2} \cdot \cancel{2} \cdot \cancel{3}} \times \frac{\cancel{2} \cdot \cancel{3} \cdot 5}{7}$$

$$= \frac{25}{7}$$

$$17. \text{ (b) } \frac{\frac{3}{16}}{\frac{15}{4}} = \frac{3}{16} \times \frac{4}{15} = \frac{\cancel{3}}{4 \cdot \cancel{4}} \times \frac{\cancel{4}}{\cancel{3} \cdot 5} = \frac{1}{20}$$

$$\begin{aligned}
 18. \text{ (a)} \quad & \frac{4}{9} + \frac{7}{9} - \frac{5}{9} \\
 & = \frac{4+7-5}{9} = \frac{6}{9} \\
 & = \frac{2}{3}
 \end{aligned}$$

$$\begin{aligned}
 18. \text{ (b)} \quad & \frac{5}{12} + \frac{11}{12} - \frac{7}{12} \\
 & = \frac{5+11-7}{12} \\
 & = \frac{16-7}{12} \\
 & = \frac{9}{12} \\
 & = \frac{3}{4}
 \end{aligned}$$

19. L.C.M of 24, 20, 15

$$\begin{array}{c}
 24 = 2^3 \cdot 3 \\
 \wedge \\
 2 \quad 12 \\
 \quad \wedge \\
 \quad 2 \quad 6 \\
 \quad \quad \wedge \\
 \quad \quad 2 \quad 3
 \end{array}$$

$$\begin{array}{c}
 20 = 2^2 \cdot 5 \\
 \wedge \\
 2 \quad 10 \\
 \quad \wedge \\
 \quad 2 \quad 5
 \end{array}$$

$$\begin{array}{c}
 15 \\
 \wedge \\
 3 \quad 5
 \end{array}$$

$$\text{L.C.M} = 2 \cdot 2 \cdot 2 \cdot 3 \cdot 5 = 120$$