

## 4th Quarter Exam Study Guide

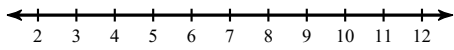
**Solve each equation.**

1)  $186 = 2 - 8(1 - 8x)$

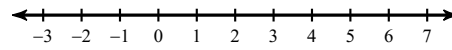
2)  $-4(1 - 4b) = -132$

**Solve each inequality and graph its solution.**

3)  $-6(-8k - 5) + 4 \geq 370$



4)  $-140 \geq 5(-7x - 7)$

**Solve each system by elimination.**

5)  $6x + 2y = -16$   
 $-12x + 9y = 6$

6)  $x - 16y = 17$   
 $-5x + 8y = -13$

**Solve each system by substitution.**

7)  $5x - 6y = 18$   
 $y = -5x - 3$

8)  $y = 4x - 10$   
 $y = 7x - 16$

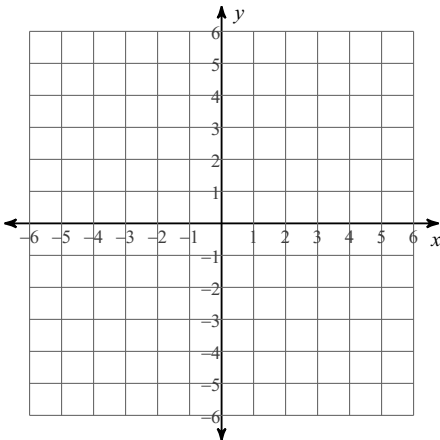
**Simplify.**

9)  $\sqrt{20a^4b}$

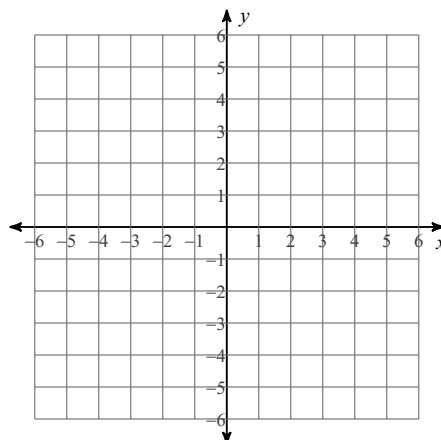
10)  $\sqrt{320m^3n^2}$

**Sketch the graph of each line.**

11)  $x + 2y = -4$



12)  $y = -\frac{2}{5}x + 1$



Find the slope of the line through each pair of points.

13)  $(-11, 2), (-13, -5)$

Factor each completely.

14)  $7a^3 - 5a^2 - 42a + 30$

15)  $5a^2 + 5a - 150$

16)  $r^2 - 9$

Factor the common factor out of each expression.

17)  $15b^2 + 10b^3 + 35b^4$

Solve each equation with the quadratic formula.

18)  $5k^2 + 6k - 104 = 0$

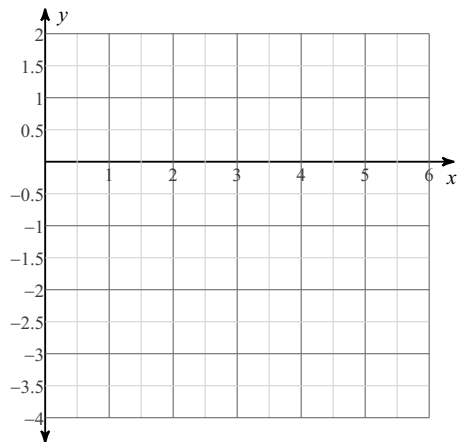
Simplify.

19)  $\sqrt{175}$

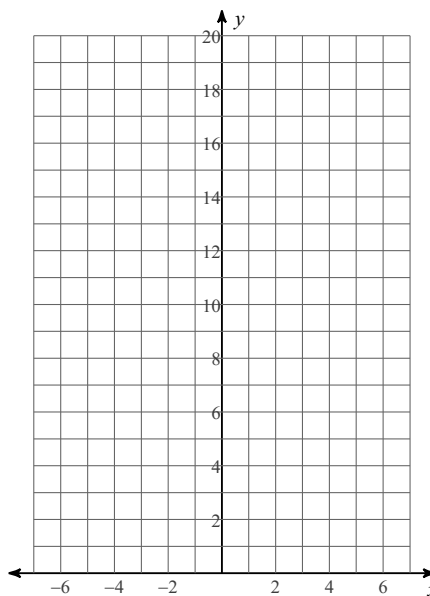
20)  $2\sqrt{54}$

Sketch the graph of each function.

21)  $y = (x - 3)^2 - 3$



22)  $y = \frac{1}{4} \cdot 4^x$



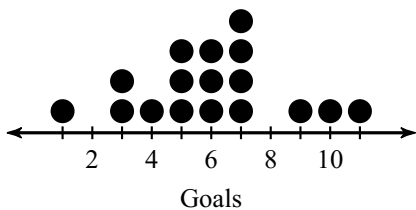
Draw a box-and-whisker plot for each data set.

23) Per Capita Income

Country	US \$	Country	US \$
Puerto Rico	34,744	Saudi Arabia	53,780
Japan	36,315	Malaysia	23,298
Israel	32,760	Tonga	5,303
The Gambia	1,666	Burundi	771
Chile	21,911	Iraq	15,188
Grenada	11,498	Bahrain	43,824
Ukraine	8,788	Iran	15,586
Sweden	43,533	Rwanda	1,452

Find the median and mean for each data set.

24) Goals in a Hockey Game



Simplify. Your answer should contain only positive exponents.

25)  $2x^4y^{-1} \cdot x^{-1}y^2$