Algebra 1 ECA Remediation Name Answer Key

Homework 25.3

Simplify. Your answer should contain only positive exponents.

1) $3x^4 \cdot 3x^{-2}$ $= 9x^{4-2} = 9x^2$

2) $4n^{-3} \cdot 3n^4$ $12n^{-3+4} = 12n^1$

3) $3r^4 \cdot 2r^2 \cdot 4r^2$ $24r^{4+2+2}$ $24r^8$

4) $b \cdot 3b^3$ $3b^{1+3} = 3b^4$

5) $2m^{-3}n^4 \cdot 3m^3 \cdot -2n^{-3}$ $-12m^{-3+3}n^{4-3}$ $= -12m^0n^1$ $= -12n$

6) $2xy^{-1} \cdot 4y^{-3}$ $8x^1y^{-1-3} = 8xy^{-4}$ $= \frac{8x}{y^4}$

7) $(3x^3)^2$ $3^2x^6 = 9x^6$

8) $(2n^{-1})^2$ $2^2n^{-2} = 4n^{-2} = \frac{4}{n^2}$

9) $(4v^4)^3$ $4^3v^{12} = 64v^{12}$

10) $(2x)^2$ $2^2x^2 = 4x^2$

11) $(x^2)^{-4} \cdot 2x^{-3}y^{-3}$ $x^{-8} \cdot 2x^{-3}y^{-3}$ $2x^{-8-3}y^{-3} = 2x^{-11}y^{-3} = \frac{2}{x^{11}y^3}$

12) $2u^{-4}v^{-4} \cdot (2u^4v^3)^{-3}$ $2u^{-4}v^{-4}2^{-3}u^{-12}v^{-9}$ $2^{-2}u^{-4-12}v^{-4-9}$ $= \frac{1}{2^2} \cdot \frac{1}{u^{16}} \cdot \frac{1}{v^{13}}$ $= \frac{1}{4u^{16}v^{13}}$

13) $\frac{x^{-3}y^{-2}}{2yx^{-3}}$ $\frac{1}{2} \cdot \frac{x^{-3}}{x^{-3}} \cdot \frac{y^{-2}}{y}$ $\frac{1}{2} \cdot \frac{1}{1} \cdot \frac{1}{y^3} = \frac{1}{2y^3}$

14) $\frac{a^3b^2}{2a^3b^3}$ $= \frac{1}{2} \cdot \frac{a^3}{a^3} \cdot \frac{b^2}{b^3}$ $= \frac{1}{2} \cdot \frac{1}{1} \cdot \frac{1}{b} = \frac{1}{2b}$

15) $\frac{3x^2}{x^{-4}}$ $3 \cdot x^6$

16) $\frac{2u^3v^{-1}}{2u^3}$ $\frac{2}{2} \cdot \frac{u^3}{u^3} \cdot \frac{v^{-1}}{1}$ $= 1(1) \cdot \frac{1}{v}$ $= \frac{1}{v}$

Solve for y = mx + b, and state the slope and the y - intercept.

17) $15x + y = 8$

$-15x \quad -15x$

$y = -15x + 8$

$y = mx + b$

$m = -15$

$b = 8$

18) $13x + 4y = 20$

$-13x \quad -13x$

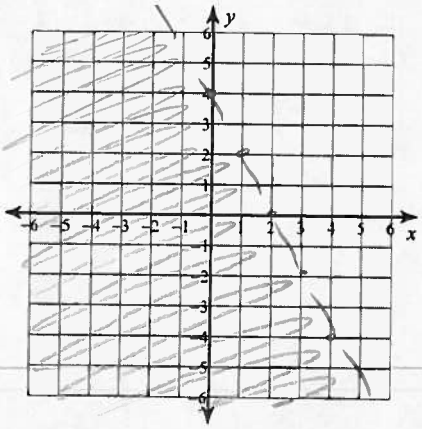
$\frac{4y}{4} = \frac{-13x}{4} + \frac{20}{4}$

$y = \frac{-13}{4}x + 5$

$m = \frac{-13}{4}$ $b = 5$

Sketch the graph of each linear inequality.

19) $y < -2x + 4$



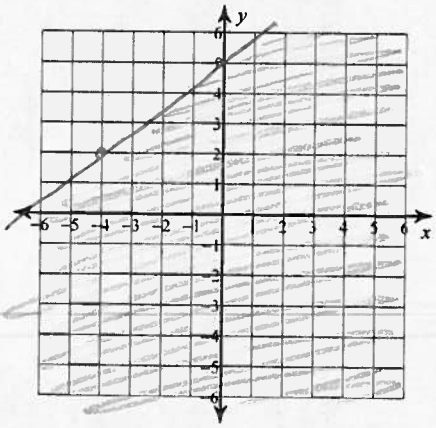
$m = -2$

$b = 4$

dashed

below

20) $y \leq \frac{3}{4}x + 5$



$m = \frac{3}{4}$

$b = 5$

solid

below

Answers to Homework 25.3

1) $9x^2$

2) $12n$

3) $24r^8$

4) $3b^4$

5) $-12n$

6) $\frac{8x}{y^4}$

7) $9x^6$

8) $\frac{4}{n^2}$

9) $64v^{12}$

10) $4x^2$

11) $\frac{2}{x^{11}y^3}$

12) $\frac{1}{4u^{16}v^{13}}$

13) $\frac{1}{2y^3}$

14) $\frac{1}{2b}$

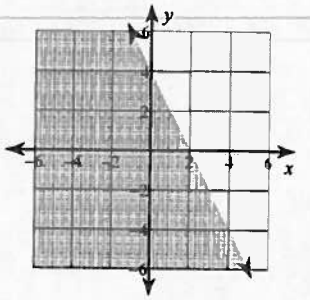
15) $3x^6$

16) $\frac{1}{v}$

17) $y = -15x + 8$, m = -15, b = 8

18) $y = -\frac{13}{4}x + 5$, $m = -\frac{13}{4}$, b = 5

19)



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