EXAM REVIEW

1. Evaluate $-(4)+(3)(-3)$ $= -4 - 9 = -13$

2. The expression $7\times 7\times 7\times 7$ written in power form is: 7^4

4. Simplify the following expressions using power rules:

   a) $(4v^2)^3 = 4^{1\cdot 3}v^{2\cdot 3} = 4^3 \cdot v^6$

   b) $\dfrac{45x^5y^2}{-9xy^2} = -5x^{5-1}y^{2-2} = -5x^4y^0 = -5x^4$

   c) $(3w)(-2xw^2) = -6w^{1+2}x = -6w^3x$

5. The equivalent of 4^{12} as a power with base 2 is: $(4)^{12} = (2^2)^{12} = 2^{2\cdot 12} = 2^{24}$

6. Simplify $(8e^2-7e)-(4e-3e^2)$ $= 8e^2-7e+(-4e+3e^2) = 8e^2-7e-4e+3e^2$
   $= 11e^2-11e$

7. Expand $-4g(3g+4rg-8r)$ $= -12g^2-14rg^2+32gr$

8. Write the coefficient of the second term in the polynomial
   $5r^2-6y+5$ $\Rightarrow -6$ (2nd term)

9. The degree of the expression $4er^5-9rf^2$ is $\Rightarrow$ Degree is $e^1r^5 \Rightarrow 1+5 \Rightarrow 6$

10. If $r-7=-2$ then the value of r is: $r-7=-2$ (+7 +7) $r=5$

11. If $\dfrac{n}{4}=\dfrac{-3}{1}$ then the value of n is: $n=-12$

12. If $-9k=36$ then the value of k is: $\dfrac{-9k}{-9}=\dfrac{36}{-9}$ $k=-4$

13. Write an algebraic expression to represent twice a number decreased by three.
    $2x-3$

14. For the line $y=-4x+3$:

    a) the slope is -4
    b) the y-intercept is $+3$

    c) the slope of a perpendicular line would be:
    $1/4$

15. All horizontal lines have a slope of

0

16. All lines that pass through the origin have a y-intercept of 0

17. Does the point $(-3,5)$ lie on the line $y=-2x-1$?

To check, sub "-3" for x into the equation. If you get "5" for "y", yes it's on the line.

$y=-2(-3)-1$ $(-3,5)$ ✓ ∴ YES, it is on the line.

$=6-1$

$=5$

18. A rectangular prism has $l=12cm,\ w=4cm,\ h=7cm$.

Find the volume.

$V=12\cdot4\cdot7$

$=336cm^3$

19. A triangle has two interior angles equal to $56°$ and $98°$.

Find the measure of the third interior angle.

$x+98+56=180$ SAT†

$x+154=180$ (−154 −154)

$x=26°$

PART B: SHORT ANSWERS

1. Evaluate. Leave your answer as a fraction in lowest terms (no decimals).

a) $\frac{-2}{5}+1\frac{1}{3}$

$=\frac{-2}{5}+\frac{1\cdot3+1}{3}$

$=\frac{-2\cdot3}{5\cdot3}+\frac{4\cdot5}{3\cdot5}$

$=\frac{-6}{15}+\frac{20}{15}$

$=\frac{14}{15}$

3. Solve for n:

$3n-57=5n-83$ (+83 +83)

$3n+26=5n$ (−3n −3n)

$\frac{26}{2}=\frac{2n}{2}$

$13=n$

4. Expand and simplify.

$4(3f-5)-5(2-3f)$ $=12f-20-10+15f$

$=27f-30$

5. Determine the x-intercept of the line $3x-8y-24=0$

sub $y=0$ $3x-8(0)-24=0$

$3x-24=0$ (+24 +24)

$\frac{3x}{3}=\frac{24}{3}$

$x=8$

7. Calculate the slope of a line passing through $A(-2,4)$ and $B(1,6)$.

$m = \frac{6-4}{1-(-2)} = \frac{2}{3}$ $\quad x_1, y_1, x_2, y_2$

8. Timberlane Athletic Club offers gym memberships for \$70 a month with an initiation fee of \$250. Show the equation that represents the total cost, C, of joining the gym where m represents the number of months.

$C = 70m + 250$

FULL SOLUTIONS

1. Solve.

$3(x-2)-4 = 6x+2 \Rightarrow 3x-6-4 = 6x+2$

$3x-10 = 6x+2$ (−2, −2)

$3x-12 = 6x$ (−3x, −3x)

$\frac{-12}{3} = \frac{3x}{3}$

$x = -4$

2. Solve the following equation.

$\frac{x+1}{4} = \frac{x}{2} + \frac{7}{1}$ (·2, ·2)

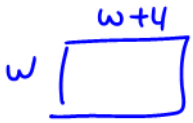
$\Rightarrow \frac{x+1}{4} \neq \frac{x+14}{2} \Rightarrow 2(x+1) = 4(x+14)$

$2x+2 = 4x+56$

$-54 = 2x$

$-27 = x$

3. Find the dimensions of a rectangle with a perimeter of 240 m, if the length is 4 m longer than the width.



$\frac{2(w+w+4)}{2} = \frac{240}{2}$

$2w+4 = 120$

$2w = 116$

$w = 58$

∴ length 62 m

width 58 m

4. A vending machine contains \$27.70 made up of dimes and quarters. If there are 199 coins in all, how many dimes and quarters are there?

5. Determine the equation of the line in slope y-intercept form which passes through $(4,-6)$ and $(-3,1)$.