Name: _____ Date: _____

EOC Practice Problems

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1. Rewrite $\sqrt{2} \cdot \sqrt{72} \cdot \sqrt{5}$

$12\sqrt{5}$

2. Is the sum of $\sqrt{3}$ and $\frac{1}{3}$ rational or (irrational?)

3. Is the sum of *Rational* $0.0\overline{675675675}...$ and 8 rational or irrational?

Rational

= *Rational*,

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4. The formula for density is d = m/v, where m is mass and v is volume. If mass is measured in kilograms and volume is measured in cubic meters, what is the unit for density?

$d = \frac{m}{v} = \frac{kg}{m^3}$

5. A rectangle has a length of 2 meters and a width of 40 centimeters. What is the perimeter of the rectangle? K H D ⓑ D ⓒ M

$2m = \ell$

$40cm = .4m = w$

$P = 2m + 2m + .4m + .4m = 4.8m$

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6. Consider the expression $3n^2 + n + 2$. Identify the coefficients and terms.
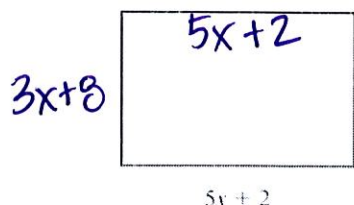
Coefficients = 3 & 1

terms = $3n^2$, n, & 2

7. Look at one of the formulas for the perimeter of a rectangle where l represents the length and w represents the width: 2(l + w). What does the 2 represent?

2 is a factor

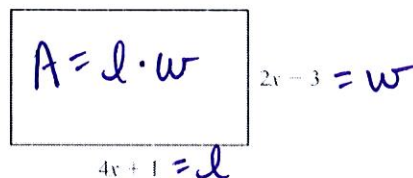8. The dimensions of a rectangle are shown. What is the perimeter, in units, of the rectangle?

5x + 2

3x+8   3x + 8

5x + 2

$P = 3x + 8$
$ + 3x + 8$
$ + 5x + 2$
$ + 5x + 2$
$\overline{ 16x + 20}$

9. The dimensions of a patio, in feet, are shown below. What is the area of the patio in square feet?

$A = \ell \cdot w$ 2x − 3 = w

4x + 1 = ℓ

$A = (4x+1)(2x-3)$
$ = 8x^2 - 12x + 2x - 3$
$ = 8x^2 - 10x - 3$

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10. Rewrite the expression $(x^3 + 2x^2 - x) - (-x^3 + 2x^2 + 6)$.

$x^3 + 2x^2 - x$
$+ x^3 - 2x^2 - 6$
$\overline{2x^3 - x - 6}$

11. Look at the radical $-8\sqrt{726}$. What is a rewritten form of the radical?

    (A.) $-88\sqrt{6}$ B. -90.75 C. $-986\sqrt{6}$ D. -2904

12. Look at the expression $2\sqrt{8}\cdot\sqrt{20}$. Which of these is equivalent to this expression?

    $2\sqrt{8\cdot20} = 8\sqrt{10}$

    A. $2\sqrt{28}$ B. 5 (C.) $8\sqrt{10}$ D. $32\sqrt{10}$

13. Which sum is rational?

    A. $\overset{irra}{\pi}+18$ (B.) $\sqrt{25}+1.75$ C. $\overset{irr}{\sqrt{3}}+5.5$ D. $\overset{irr}{\pi}+\sqrt{2}$

    $5+1.75 = Rational$

14. Which product is irrational?

    A. $\sqrt{2}\cdot\sqrt{50} = 10$ B. $\sqrt{64}\cdot\sqrt{4} = 16$ C. $\sqrt{9}\cdot\sqrt{49} = 21$ (D) $\sqrt{10}\cdot\sqrt{8} = 4\sqrt{5}$

    Irrational

15. A rectangle has a length of 12 meters and a width of 400 centimeters. What is the perimeter, in cm, of the rectangle? $l = 12m = \underline{1200}\ cm$ KHDB RC m

    $l = 12m$ $w = 400cm$

    $P = 2(1200) + 2(400)$

    A. 824 cm   B. 1600 cm   C. 2000 cm   (D.) 3200 cm

16. Jill swam 200 meters in 2 minutes 42 seconds. If each lap is 50 meters long, which is most likely to be her time, in seconds, per lap?

    $200\,meters = 2(60) + 42\,seconds$
    $200\,meters = 162\,seconds$

    $\dfrac{200\,meters}{4} = \dfrac{162\,seconds}{4}$

    $50\,meters = 40.5\,sec.$

    A. 32 seconds secs   (B.) 40 seconds   C. 48 seconds   D. 60

17. In which expression is the coefficient of term "n" -1?

    A. $3n^2 + 4n - 1$
    B. $-n^2 + 5n + 4$ ——— n term = -1 coefficient
    (C.) $-2n^2 - n + 5$
    D. $4n^2 + n - 5$

18. The expression s^2 is used to calculate the area of a square, where s is the side length of the square. What does the expression $(8x)^2$ represent?

    A. the area of a square with a side length of 8
    B. the area of a square with a side length of 16
    C. the area of a square with a side length of 4x

D. the area of a square with a side length of 8x

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19. What is the product of 7x – 4 and 8x + 5?

mult.

$(7x-4)(8x+5)$

$56x^2+35x-32x-20$

$56x^2+3x-20$

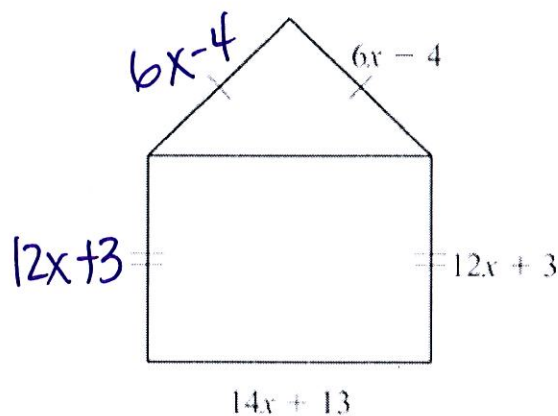A. 15x + 1   B. 30x + 2   C. 56x² + 3x – 20   D. 56x² – 3x + 20

(C is circled)

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20. A model of a house is shown. What is the perimeter, in units, of the model?

$6x-4$

$6x-4$

12x+3

14x + 13

$6x-4$
$6x-4$
$12x+3$
$12x+3$
$14x+13$
_____
$50x+11$

A. 32x + 12 units
B. 46x + 25 units
C. 50x + 11 units
D. 64x + 24 units

(C is circled)

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21. Which expression has the same value as the expression?

$(8x^2 + 2x – 6) – (5x^2 – 3x + 2)$

A. 3x² – x – 4
B. 3x² + 5x – 8
C. 13x² – x - 8
D. 13x² - 5x – 4

(B is circled)

$8x^2+2x-6$
$-5x^2+3x-2$
_____
$3x^2+5x-8$