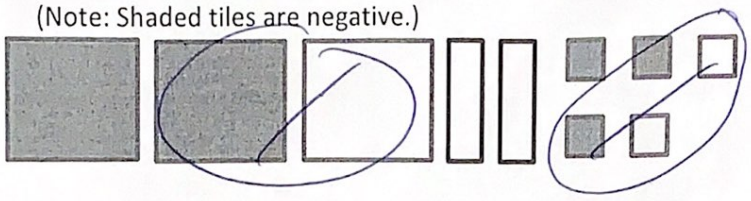
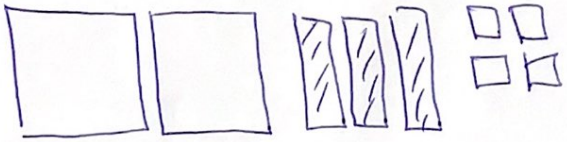
MTH1W Quiz (2.1-2.4) Mar. 2022 $\frac{18+2}{18+2}=\frac{20}{20}$ Name_____

1. Write the simplified algebraic expression represented by the model. [1]
(Note: Shaded tiles are negative.)



$-x^2+2x-1$ ✓

2. Draw the expression $2x^2-3x+4$ using tiles (shaded is negative) [1]



2. ✓

3. Simplify. [1,2]

a) $5b^2-2b+4-3b-4b^2$

$=5b^2-4b^2-2b-3b+4$

$=b^2-5b+4$ ✓

b) $5x^2-(-2x)+(-4)-3x-(+1)-x^2$ ✓

$=5x^2+2x-4-3x-1-x^2$

$=4x^2-x-5$ ✓ 3

4. Simplify. [1,2]

a) $(3x^2-7x+1)+(x^2+5x-4)$

$=3x^2-7x+1+x^2+5x-4$

$=4x^2-2x-3$ ✓

b) $(3x^2+5x-1)-(4x^2-7x+2)$ ✓

$=3x^2+5x-1-4x^2+7x-2$

$=-x^2+12x-3$ ✓ 3

5. Simplify. [4]

a) $(3y^5)(-2y^3)$

$=-6y^8$ ✓

b) $\frac{-12a^6b^2}{3a^4b^{-5}}$ 2 (-6) 2 5

$=-4a^2b^7$

c) $(3x^{-5}y^4)^2$

$=3^2x^{-10}y^8$ ✓

$=\frac{9y^8}{x^{10}}$

d) $\left(\frac{x^3}{y^2}\right)^5$ 4

$=\frac{x^{15}}{y^{10}}$ ✓

6. Simplify. [6]

a) $\frac{(2x^2y^{-1})^4}{(-2x^3y^{-3})^3}$

$=\frac{2^4x^8y^{-4}}{(-2)^3x^9y^{-9}}$ ✓

$=\frac{16x^8y^{-4}}{-8x^9y^{-9}}$ ✓

$=-2x^{-1}y^5$

$=\frac{-2y^5}{x}$ ✓

b) $(-3ab^{-4})^2(2a^3b^{-2})^3$

$=((-3)^2a^2b^{-8})(2^3a^9b^{-6})$ ✓

$=(9a^2b^{-8})(8a^9b^{-6})$

$=72a^{11}b^{-14}$ ✓

$=\frac{72a^{11}}{b^{14}}$ ✓ 6