

Comparison of Alberta Mathematics 20-2 and 30-2 to WNCP Foundations of Mathematics 11 and 12

Alberta's Mathematics 20-2 and WNCP Foundations of Mathematics 11:

Alberta Mathematics 20-2	WNCP Foundations of Mathematics 11	Comments
<p>Measurement</p> <ol style="list-style-type: none"> Solve problems that involve the application of rates. Solve problems that involve scale diagrams using proportional reasoning. Demonstrate an understanding of the relationships among scale factors, areas, surface areas and volumes of similar 2-D shapes and 3-D objects. 	<p>Measurement</p> <ol style="list-style-type: none"> Solve problems that involve the application of rates. Solve problems that involve scale diagrams, using proportional reasoning. Demonstrate an understanding of the relationships among scale factors, areas, surface areas and volumes of similar 2-D shapes and 3-D objects. 	Outcomes 1–3 are common.
<p>Geometry</p> <ol style="list-style-type: none"> Derive proofs that involve the properties of angles and triangles. Solve problems that involve properties of angles and triangles. Solve problems that involve the cosine law and the sine law, excluding the ambiguous case. 	<p>Geometry</p> <ol style="list-style-type: none"> Derive proofs that involve the properties of angles and triangles. Solve problems that involve properties of angles and triangles. Solve problems that involve the cosine law and the sine law, including the ambiguous case. 	<p>In Alberta Mathematics 20-2, Outcome 1, an achievement indicator for proving triangles are congruent has been added. This achievement indicator is not included in WNCP Foundations 11.</p> <p>In Math 20-2, the ambiguous case is excluded from outcome 3.</p>
<p>Number and Logic</p> <ol style="list-style-type: none"> Analyze and prove conjectures, using inductive and deductive reasoning, to solve problems. Analyze puzzles and games that involve spatial reasoning, using problem solving strategies. Solve problems that involve operations on radicals and radical expressions with numerical and variable radicands (limited to square roots). Solve problems that involve radical equations (limited to square roots or cube roots). 	<p>Logical Reasoning</p> <ol style="list-style-type: none"> Analyze and prove conjectures, using inductive and deductive reasoning, to solve problems. Analyze puzzles and games that involve spatial reasoning, using problem solving strategies. 	<p>Outcomes 1 and 2 are common.</p> <p>Outcomes 3 and 4 (radicals) were added to Math 20-2 to meet the requirements of some post-secondary institutions.</p>

Alberta Mathematics 20-2	WNCP Foundations of Mathematics 11	Comments
<p>Statistics</p> <ol style="list-style-type: none"> Demonstrate an understanding of normal distribution, including: <ul style="list-style-type: none"> standard deviation z-scores. Interpret statistical data, using: <ul style="list-style-type: none"> confidence intervals confidence levels margin of error. 	<p>Statistics</p> <ol style="list-style-type: none"> Demonstrate an understanding of normal distribution, including: <ul style="list-style-type: none"> standard deviation z-scores. Interpret statistical data, using: <ul style="list-style-type: none"> confidence intervals confidence levels margin of error. 	<p>Outcomes 1 and 2 are common.</p>
<p>Relations and Functions</p> <ol style="list-style-type: none"> Demonstrate an understanding of the characteristics of quadratic functions, including <ul style="list-style-type: none"> vertex intercepts domain and range axis of symmetry. Solve problems that involve quadratic equations. 	<p>Relations and Functions</p> <ol style="list-style-type: none"> Model and solve problems involving systems of linear inequalities in two variables. Demonstrate an understanding of the characteristics of quadratic functions, including <ul style="list-style-type: none"> vertex intercepts domain and range axis of symmetry. 	<p>The outcome on systems of linear inequalities is in the WNCP Foundations 11 only.</p> <p>Outcomes 1 and 2 in Alberta Mathematics 20-2 are equivalent to outcome 2 in WNCP Foundations 11. The content on solving quadratic equations (Outcome 2 in Alberta Mathematics 20-2) is embedded in the outcome on quadratic functions in WNCP Foundations 11.</p>
<p>Mathematics Research Project</p> <ol style="list-style-type: none"> Research and give a presentation on a historical event or an area of interest that involves mathematics. 	<p>Mathematics Research Project</p> <ol style="list-style-type: none"> Research and give a presentation on a historical event or an area of interest that involves mathematics. 	<p>Outcome 1 is common.</p>

Alberta Mathematics 30-2 and WNCP Foundations of Mathematics 12:

Alberta Mathematics 30-2	WNCP Foundations of Mathematics 12	Comments
	<p>Financial Mathematics</p> <ol style="list-style-type: none"> 1. Solve problems involving compound interest in financial decision making. 2. Analyze costs and benefits of renting, leasing, and buying. 3. Analyze an investment portfolio in terms of: <ul style="list-style-type: none"> • interest rate • rate of return • total return. 	<p>These outcomes are only in WNCP Foundations of Mathematics 12. However, there is an expectation in Alberta Mathematics 30-2 that some of the applications of compound interest will be addressed in Relations and Functions Outcome 5 of (exponential equations).</p>
<p>Logical Reasoning</p> <ol style="list-style-type: none"> 1. Analyze puzzles and games that involve numerical and logical reasoning, using problem solving strategies. 2. Solve problems that involve the application of set theory. 	<p>Logical Reasoning</p> <ol style="list-style-type: none"> 1. Analyze puzzles and games that involve numerical and logical reasoning, using problem solving strategies. 2. Solve problems that involve the application of set theory. 3. Solve problems that involve conditional statements. 	<p>Outcomes 1 and 2 are common.</p> <p>Outcome 3 is unique to WNCP Foundations of Mathematics 12.</p>
<p>Probability</p> <ol style="list-style-type: none"> 1. Interpret and assess the validity of odds and probability statements. 2. Solve problems that involve the probability of mutually exclusive and non-mutually exclusive events. 3. Solve problems that involve the probability of two events. 4. Solve problems that involve the fundamental counting principle. 5. Solve problems that involve permutations. 6. Solve problems that involve combinations. 	<p>Probability</p> <ol style="list-style-type: none"> 1. Interpret and assess the validity of odds and probability statements. 2. Solve problems that involve the probability of mutually exclusive and non-mutually exclusive events. 3. Solve problems that involve the probability of two events. 4. Solve problems that involve the fundamental counting principle. 5. Solve problems that involve permutations. 6. Solve problems that involve combinations. 	<p>Outcomes 1–6 are common.</p>

Alberta Mathematics 30-2	WNCP Foundations of Mathematics 12	Comments
<p>Relations and Functions</p> <ol style="list-style-type: none"> 1. Determine equivalent forms of rational expressions (limited to numerators and denominators that are monomials and binomials). 2. Perform operations on rational expressions (limited to numerators and denominators that are monomials and binomials). 3. Solve problems that involve rational equations (limited to numerators and denominators that are monomials and binomials). 4. Demonstrate an understanding of logarithms and the laws of logarithms. 5. Solve problems involving exponential equations. 6. Represent data using exponential and logarithmic functions, to solve problems. 7. Represent data using polynomial functions (of degree ≤ 3), to solve problems. 8. Represent data using sinusoidal functions, to solve problems. 	<p>Relations and Functions</p> <ol style="list-style-type: none"> 1. Represent data using polynomial functions (of degree ≤ 3), to solve problems. 2. Represent data using exponential and logarithmic functions, to solve problems. 3. Represent data using sinusoidal functions, to solve problems. 	<p>Outcomes 1–3 of WNCP Foundations 12 are the same as outcomes 6–8 of Alberta Mathematics 30-2 (order is not important).</p> <p>Outcomes 1–5 (introduction to rational expressions and logarithms) were added to Alberta Mathematics 30-2 to meet the requirements of some post-secondary institutions.</p>
<p>Mathematics Research Project</p> <ol style="list-style-type: none"> 1. Research and give a presentation on a current event or an area of interest that involves mathematics. 	<p>Mathematics Research Project</p> <ol style="list-style-type: none"> 1. Research and give a presentation on a current event or an area of interest that involves mathematics. 	<p>This outcome is common.</p>